The American Neptune

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THE AMERICAN NEPTUNE

A QUARTERLY JOURNAL OF MARITIME HISTORY

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IN *scientific publications the names of few ships are as ubiquitous as that of the* Albatross, *yet little is generally known of the history of the ship herself. At the instigation of Commissioner Spencer Fullerton Baird she was built in* 1882 *for the United States Fish Commission, equipped with dredging machinery, hydrographic instruments and laboratories, and manned by naval personnel. The series of her scientific voyages lasting nearly forty years was interrupted only by service in two wars and ended only in the post-war economies of the early nineteen twenties. While zoölogists and oceanographers are intimately acquainted with the formidable products of her numerous voyages, Mr. Joel W. Hedgpeth in his account of the* Albatross *brings to the present issue a ship's history that is unfamiliar to the average reader. To supplement this, Dr. Waldo L. Schmitt, one of the loyal alumni of the* Albatross, *has devotedly prepared from logs in the National Archives a detailed chronology which includes rosters of the scientific personnel and commanding officers.*

A scientific research ship, built and maintained by a government, implies both a considerable state of national prosperity and a genuine inter-

est in marine matters. It is therefore appropriate to consider in the same issue the activities of two earlier and very different American vessels which, in their way, contributed to the economic development that made the Albatross *possible. The Salem ship* Martha's *shopping trip in the Mediterranean in* 1801 *is not in itself very remarkable or extraordinary, but it illustrates clearly the means by which many Americans made themselves livings and some made themselves fortunes, while the account of the* Walk-in-the-Water's *pioneering service on Lake Erie suggests the part played by steamboats in opening and accelerating domestic transportation. Without the* Marthas *and* Walk-in-the-Waters *there could have been no* Albatross.

The United States Fish Commission Steamer Albatross

BY JOEL W. HEDGPETH

With an Appendix by Waldo L. Schmitt

INTRODUCTION

BY the year 1880 the investigations of the United States Fish Commission, carried out in the coastal waters of the eastern United States since 1871, had revealed the oceanic character of many important food fishes and emphasized the need for a research vessel capable of working on the high seas. Accordingly, in 1881, at the suggestion of Commissioner Spencer Fullerton Baird, Congress authorized an appropriation of $103,000 for the construction of such a research vessel. The plans were drawn by Charles W. Copeland of New York, incorporating the suggestions of Lieutenant-Commander Z. L. Tanner, whose previous experience with the work of the Fish Commission as commander of the *Fish Hawk* made him thoroughly familiar with the problems involved. After a second appropriation of $45,000, the contract for construction of the vessel was awarded to Pusey and Jones of Wilmington, Delaware. The keel was laid in March 1882, and the ship was launched in August. On 30 December of that year she made her trial runs.

Thus began the long career of the United States Fish Commission steamer *Albatross*, the first vessel built especially for marine research by any government. During her forty years of service she surveyed the Newfoundland Banks and the uncharted waters of the Bering Sea, visited the scattered archipelagoes of the Pacific, and served in two wars. While the cruise of H.M.S. *Challenger* will always be remembered as the starting point of modern oceanography, the career of the *Albatross* entitles her to an equally distinguished place in the history of the science. Her life as a research vessel spanned the development of oceanography from its early stages, when the principal interest of deep-sea expeditions was the survey of the fauna of the oceans, to the collection of precise chemical and physical data which is characteristic of present-day research. The importance of the *Albatross* was recognized by the Prince of Monaco, who had the ves-

sel's name included in the roster of great research vessels that is carved on the façade of his imposing Oceanographic Museum on a rocky cliff overlooking the Mediterranean near Monte Carlo. Yet in her own country the *Albatross* is almost forgotten, and her last known years were spent in a foreign port, ignominiously tied up as the result of a libel action.

I

The *Albatross* was an iron, twin screw vessel, rigged as a brigantine. She carried sail to a fore-topgallant and her total sail area was 7,521 square feet. Her original dimensions were as follows:[1]

Length, over all	234 feet	
Length, at 12-foot water-line	200	
Breadth of beam, molded	27	6 inches
Depth, from top of floor to top of deck beams	16	9
Sheer, forward	5	2
Sheer, aft	3	
Height of deck-house, amidships	7	3
Displacement on 12-foot water-line	1,074 tons	
Registered tonnage, net	384	
Spars:	*height*	*diameter*
Mainmast, above main deck	56 feet	20 inches
Main-topmast, above cap	32	9½
Foremast, above deck	52	21
Fore-topmast, above cap	30	10½
Fore-yard	50	11
Fore-topsail yard	40	9
Fore-topgallant sailyard	27½	5½
Fore-gaff	27	7½
Mainboom	56	12½
Main-gaff	36	9½
Dredging-boom	36	10
Bowsprit	10 outboard	13 (square)

As the *Albatross* was designed for deep-sea dredging, the most interesting details of her construction involved the machinery and equipment designed to handle the dredging rope. This consisted of two engines, the dredging engine proper, a 15.5 horsepower steam engine on the main deck immediately forward of the mainmast, and the reeling engine, on

[1] For fuller information about the construction of the *Albatross*, see: Lieutenant-Commander Z. L. Tanner, 'Report on the Construction and Outfit of the U. S. Fish Commission Steamer Albatross,' *Report, U. S. Fish Commission, 1883* (1885), pp. 1-116, pls. i-lv, 19 text figs. Lieutenant-Com-

the berthdeck below. This latter engine operated the storage reel, which had a capacity of 4,500 fathoms of 3/8-inch wire rope. The cable was passed under a governor after leaving the dredging engine, thence through a leading block forward of the engine and finally back to the reel. The accumulator for taking up strains on the dredging line was a system of rubber blocks with a total length of 11 feet, 1 inch. This apparatus was shackled to the topping-lift band forward of the mast. The dredging cable was run through a block at the lower end of the accumulator, thence through a pulley in the base of the dredging boom, and finally through the dredging block at the end of the boom.

The use of rubber to compensate for the dredging strain was not new to the *Albatross*, and this particular method of compression had been used by Captain Sigsbee on the *Blake* a few years before. The *Challenger* was apparently the first research vessel to use rubber accumulators. These were simply bundles of large rubber bands hung from the end of the boom to support the dredging blocks. As primitive as this contraption sounds, it was nevertheless remarkably efficient. Some of the *Challenger's* original accumulators were found to be usable twenty years after the expedition.

mander Z. L. Tanner, 'Deep Sea Exploration: A General Description of the Steamer Albatross, her Appliances and Methods,' *Bulletin, U. S. Fish Commission,* XVI (1897), 257-428, pls. I-XL, 76 text figs.

An inquiry addressed to the National Archives, Washington, D. C., about plans and specifications relative to the construction of the Steamer *Albatross* revealed the following documents:

Summary of the *Albatross*, including draft, displacement, length, speed, engines, boilers, etc. typewritten . . . 1 p.

Memorandum comparing specifications of boilers and condensers, *Albatross* and *Fish Hawk*. typewritten . . . 1 p.

Steamer *Albatross*. photograph . . . 1 p.

Specifications for Building the Iron-Screw Steamer *Albatross*, issued by the U. S. Light-House Establishment, 1880. [The plans include (1) Sail plan, outboard profile, (2) mid-ship section, inboard profile and deck plans, (3) lines and hold plan, and would be of value to anyone wishing to build a model of the *Albatross*.] printed . . . 53 pp. and 4 plans

Specifications for Building the New Boilers, etc., of the Steamer *Albatross*, issued by the U. S. Commission of Fish and Fisheries, 1886. printed . . . 25 pp.

"A Complete Description of the United States Fisheries Steamer *Albatross*, submitted by C. S. Cochrane, Captain, U.S.C.G., Commanding, Norfolk, Virginia, 12 June 1919," (prepared by Lt. (j.g.) (T) L. M. Harvey, U. S. Navy, and Lt. (T) W. B. Stork, U. S. Navy). typewritten . . . 19 pp.

These records may be inspected at the National Archives or may be, subject to war time contingencies, photostatically reproduced at a cost of 25 cents per exposure (usually includes two pages). A plan is under consideration to include these data in the File Microcopy Program of the National Archives. File Microcopies are textual reproductions on 35 mm. microfilm intended to make research materials widely available at minimum cost to research workers equipped to utilize them. If the technical data becomes a File Microcopy, the documents mentioned above all can be obtained at a cost of approximately $1.00 per set. Inquiries should be addressed to the National Archives, Washington, D. C.

Not included in the above are logbooks of the *Albatross* for several cruises and other documentation relating to the vessel and its operations existing in the National Archives in considerable quantity.

Today the accumulators on such modern research vessels as the *E. W. Scripps* and the *Atlantis* are steel compression springs.

Because the *Albatross* was expected to spend much of her time dredging with her stern to the sea, her rudder and steering apparatus were much larger than usual for a ship of her size.

In addition to the dredging machinery, the *Albatross* was equipped with hydrographic instruments. These included a hand sounding machine for depths of 200 fathoms or less and for use in navigating, and the Sigsbee sounding machine for sounding at great depths and securing temperatures and water specimens.[2]

The main laboratory of the *Albatross* was located in the deck-house immediately abaft the chart-room. It was 14 feet long by 13 feet, 6 inches wide (the width of the deck-house). Immediately below the upper laboratory was the main or lower laboratory, occupying the width of the berth deck, and twenty feet long. This laboratory was provided with a dark-room, facilities for chemical analyses, and storage lockers for the collections. Below this, in the hold, was the storage laboratory for the alcohol, nets and miscellaneous equipment. Four state-rooms were provided for members of the scientific staff.

During the fiscal year 1913-1914 the *Albatross* was overhauled at Mare Island Navy Yard and several important alterations made in her rigging and deck-houses. The yards were removed from the foremast, altering her rig from a brigantine to a schooner. The pilot house was extended to make two offices and state-room for the executive officer, and a radio shack was constructed forward of the mainmast. Five years later further alterations were made, which left her with only a gaff for the colors and a signal yard. The only sails then left to the ship were a jib, fore-staysail, and storm trysail.

The ship was first armed with a three-inch breech loader, mounted on the forecastle. A few years later this was replaced by a 37mm Hotchkiss revolving cannon. During her service in the Spanish American War and World War I she carried an assortment of small cannon, all of which were removed after the cessation of hostilities. Her secondary battery in 1918 was augmented by a Y gun.

The *Albatross* was originally provided with five boats: a 26½-foot steam cutter, 25-foot steam gig, 26-foot whaleboat, a seine boat and a dinghy. A

[2] The Sigsbee machine was invented by Captain C. D. Sigsbee (afterwards commander of the *Maine* one Sunday morning in Havana), for use on the *Blake* in its Caribbean explorations during the years 1877-1879. He does not seem to have been consulted in connection with the construction and outfitting of the *Albatross* although he was on duty at Annapolis at the time. For a description of the *Blake* and its equipment, see C. D. Sigsbee, *Deep Sea Sounding and Dredging* (Washington, 1880), 208 pp., 41 plates.

few years later this complement of boats was supplemented with a 26-foot schooner rigged cutter, a small center-board boat for the use of the naturalists, and a dory. One of the larger *Albatross* boats was loaned to William Beebe for use on his *Arcturus* expedition to the Galapagos in 1925, where it worked loose from its moorings one night and was not recovered.

The *Albatross* is worthy of note as the first United States government vessel to be equipped with electric lighting throughout. This innovation was justified by the necessity for providing adequate light to enable the naturalists to sort out the dredge hauls, which often were not brought aboard until evening. The original dynamo generated a current of fifty-one volts, but since Mr. Edison's invention was still a novelty, the ship was also equipped with a complete outfit of oil lamps.

Few who sailed on the *Albatross* fail to remember her as a comfortable ship, although by navy standards she was a 'bastard' ship, manned by naval personnel but controlled by a civilian department, and assignment to her was not always considered advantageous to advancement in the service. For scientists, however, a cruise on the *Albatross* was an almost essential requirement of their career, and the roster of scientists who have sailed on the *Albatross* reads like a *Who's Who* of American zoölogy. Alexander Agassiz considered the *Albatross* the best deep-sea dredger of the day and financed three of her cruises. On test runs under steam the *Albatross* logged slightly more than ten knots—a slow speed by modern standards, but adequate enough for the purpose of deep-sea research. She carried a crew of eighty officers and men, exclusive of the civilian scientific staff.

II

Before the building of the *Albatross*, the United States had already made some notable contributions to the study of the sea. As in many other branches of science, American contributions to oceanography began with Benjamin Franklin, who made the first scientific study of the Gulf Stream. During the 1850's, when American sailing ships acknowledged no peers, the work of Matthew Fontaine Maury aroused a world-wide interest in the study of ocean currents. His book, *The Physical Geography of the Sea,* was probably more widely read than any other scientific book of its day with the exception of the *Origin of Species,* and is now recognized as the starting point of modern physical oceanography.

The science of oceanography, as a comprehensive survey and analysis of the physical, chemical and biological aspects of the ocean, properly began with the cruise of H.M.S. *Challenger*, which lasted from 21 December

1872, to 24 May 1876. Since 1846, however, the United States Coast Survey had been conducting intensive investigations in the problems of the Gulf Stream under the supervision of B. F. Bache. These investigations culminated in the expeditions of the *Blake* under the directorship of Alexander Agassiz in 1877 and 1878.[3]

The investigations of the United States Fish Commission, which were to result in the construction of the *Albatross*, began in 1871. Thus the United States was no newcomer to the field when the *Albatross* began her exploration of the depths of the seas. The Fish Commission was recognized abroad as a model scientific bureau, and was one of the major exhibitors at the International Fishery Congress held in London in 1883. One of the most popular exhibits at this meeting was a scale model of the newly commissioned *Albatross,* the same model that is now on exhibit in the Smithsonian Institution. (Plate 2)

After trial runs and tests of the dredging equipment, the *Albatross* put to sea on her first cruise on 26 April 1883, although her first official station was occupied on 22 March, during one of her test runs. The primary object of her first cruise was the study of the movements of menhaden, mackerel, bluefish and other commercially important fishes. This investigation, carried out between Cape Hatteras and the Grand Banks, was continued for five years, under the nominal direction of Commissioner Baird. The actual study of the collections was carried out by Professor A. E. Verrill of Yale and a corps of assistants. The *Albatross* began to haul up an immense amount of material at the very beginning of her career, and some of the collections made on her first cruise are still unclassified. Until her last cruise, however, the *Albatross* did little work in physical oceanography, and her contributions to this branch of oceanography are negligible.

Her maiden expeditions in the Atlantic fulfilled all expectations: much valuable information about the fisheries of the northwestern Atlantic was assembled, and many previously unknown deep-sea animals were brought to the surface. During these first years the *Albatross* also made several cruises in the Caribbean, correcting charts under the direction of the Bureau of Navigation. Dredging was not neglected, and several notable collections resulted from these hydrographic cruises.

On 21 November 1887, after being refitted with new boilers, the *Albatross* left Norfolk for San Francisco, to begin the investigations of the fisheries resources of Alaska and the oceanographic cruises in the South Seas

[3] Cf. A. Agassiz, *Three Cruises of the U. S. Coast and Geodetic Survey Steamer* Blake (Boston: Houghton Mifflin, 1888).

which were to keep her in Pacific waters for nearly thirty years. She arrived in San Francisco on 11 May 1888, after an uneventful circumnavigation of South America, during which a number of dredge hauls were made and some doubtful shoals on the charts investigated. Owing to a cholera epidemic in Chile, however, the *Albatross* was unable to secure coal according to plan, and was obliged to travel for two thousand miles up the western coast of South America without occupying a dredging station.

The *Albatross* made her first departure for Alaska on 4 July 1888, beginning that series of annual voyages which was to last for more than twenty years and make her a familiar character in Alaskan waters. Although the primary purpose of these voyages was the investigation and survey of the fisheries resources and fishing grounds of the northeastern Pacific and the Bering Sea, especially the salmon, the *Albatross* was also used for hydrographic work in the Bering Sea, in the investigation and patrol of the Pribilof Island seal herds, and for occasional ethnographic surveys. Her ubiquitous presence in Alaskan waters also confirmed the impression that Alaska was the feudal domain of the Commissioner of Fisheries, but that is another story.

In 1891 the *Albatross* made her first cruise to the tropical Pacific under the directorship of Alexander Agassiz. This expedition to the waters off Central America and the Galapagos was financed by Agassiz from the profits of his copper mines. He paid the not inconsiderable coal bills for the privilege of determining the itinerary of the ship, and selecting the choicest material from the dredgings for the Museum of Comparative Zoölogy at Harvard. This was the first purely scientific expedition undertaken by the *Albatross*, and the region was selected by Agassiz because it had not been touched by the *Challenger* on her world cruise, and because he hoped the collections would confirm his theory of a former connection between the Pacific and the Caribbean.[4]

Although Agassiz never completed his study of the relations between the marine faunas of the Atlantic and Pacific sides of the Isthmus of Panama, the results of his first cruise with the *Albatross* were important enough to encourage further expeditions. The second expedition was undertaken in 1899, when the *Albatross* began a cruise of the South Seas and Japan via the Marquesas, Society and Marshall Islands. On this cruise Agassiz made many of the observations that influenced his theories on

[4] For appraisals of Agassiz and his work, see G. R. Agassiz, *Letters and Recollections of Alexander Agassiz* (Boston: Houghton Mifflin, 1913). Sir John Murray, 'Alexander Agassiz: His life and Scientific Work,' *Bull. M. C. Z.*, 54 (3): 140-158 (1911). There is an interesting note in Thomas Barbour's *Naturalist at Large* (Boston: Little Brown, 1943), pp. 213-216.

the origin of coral reefs. After reaching Japan, the *Albatross* left directly for her annual duties in Alaskan waters. On this expedition of 1899 the *Albatross* made the deepest successful dredge haul on record, at Station 3693, on 27 November. From a depth of 7632 meters, at 21°18′ S, 173°31′ W, the trawl brought up some fragments of a sponge. It was also on this cruise that the ship acquired, as the gift of a chief in the Marquesas, an addition to her company. This individual, known as 'Old Bill' and described by Agassiz 'as a very large goat,' lived for several years aboard the ship and was very fond of chewing tobacco and marlin. As the gift of a foreign sovereign, the goat was sacrosanct and its health a matter of official concern, and he made the best of his exalted station in life.

The third Agassiz expedition, in 1904-1905, explored the vast and little-known area between the coast of Chile and the Paumotos, which is broken only by the isolated speck of Easter Island. It was necessary to charter a coaling vessel to meet the *Albatross* at Easter Island, which made this expedition as costly to Agassiz as it would have been to charter an exploring vessel outright.

After returning from the first Agassiz expedition in 1891, the *Albatross* made her usual trip to the Bering Sea and was also engaged, during the winter of 1891-1892, on the survey of a cable route to Hawaii. At the outbreak of the Spanish American War the *Albatross* was sent to Mare Island for refitting as a war vessel. She entered the yard on 21 April, and did not leave until 7 July, by which time the war was practically over. On 25 August the ship was returned to the Fish Commission, after three weeks of naval service.

The *Albatross* resumed her work in Alaska after this interruption, and in 1902 was engaged on a fisheries survey of Hawaiian waters. The third Agassiz expedition of 1904-1905 was followed by a cruise to Japanese waters in 1906, during which extensive dredgings were made. While returning from this cruise, the *Albatross* lost her captain, Lieutenant-Commander L. M. Garrett, who was apparently thrown overboard by a sudden lurch of the vessel (she was under full sail) while asleep in a deck chair. This tragedy occurred on 21 November 1906.

In 1907 the *Albatross* began her longest cruise. This was the two and a half year survey of the marine resources of the Philippines and neighboring island regions, under the direction of Hugh M. Smith, later Commissioner of Fisheries.[5]

[5] A recent account of this voyage was published in the Hugh M. Smith memorial number of *Copeia* (November 1941) by Paul Bartsch, 'The *Albatross* Voyage of 1907-1910.' Roy Chapman Andrews, who was on the *Albatross* during part of this expedition, has also published some reminiscences in *Under A Lucky Star* (New York: Viking Press, 1943), and makes this interesting comment (p.

Although the ship was beginning to show signs of age after twenty-eight years of service, she made a voyage to the Gulf of California during the early months of 1911. On returning to San Francisco, the ship was found to be unseaworthy and was confined to San Francisco Bay until 2 April 1914. During this time the vessel was used in a biological survey of San Francisco Bay. She was then laid up for overhauling, and the extensive alterations in her rigging and deck-houses already referred to were made.

After these alterations, the *Albatross* put to sea again, on a survey of the halibut grounds off the coast of Oregon and Washington, but had to be laid up from 11 October 1916 to April of the following year because of insufficient funds for operating the vessel. On 2 May 1917, the ship was again transferred to the Navy for war service, although not officially received by the Navy until 19 November 1917. She was assigned to anti-submarine patrol in the Caribbean. This service was uneventful except for a small part taken in the search for the *Cyclops*. After the war, the *Albatross* was reconditioned in Baltimore and returned to the Bureau of Fisheries on 23 June 1919. In October of that year the ship made a cruise to Yucatan, and during the last part of 1919 and the early months of 1920 was engaged in the oceanographic survey of the Gulf of Maine under the direction of H. B. Bigelow. On 19 May 1920, she occupied her last station, C20130, a hydrographic observation.

In spite of her several overhauls, the *Albatross* was an expensive ship to operate, and the Bureau of Fisheries was none too prosperous during the post-war years. It was therefore decided to retire the ship. She was decommissioned at Woods Hole on 29 October 1921. In May 1924 the Bureau of Fisheries was authorized to condemn the vessel and offer her for sale, after the removal of instruments, equipment and library. On 24 June 1924, the *Albatross* was transferred to Thomas Butler and Company of Boston, who had bid $2,276 for the ship. She was then refitted 'as closely as possible along her old lines' for use as a schoolship.

The rest of the story of the *Albatross* is briefly told. All that is known is contained in the following newspaper items:

CHRISTIAN SCIENCE MONITOR:

Boston, Massachusetts, 7 May 1927.—A campaign for voluntary contribution to support the nautical training of boys between 14 and 21 years of age, was launched

67): 'Most of the scientific staff as well as the officers had been aboard her too long and friction had developed to such an extent that several were not on speaking terms with the others.' That old Philippine hand, Dr. Albert W. C. T. Herre of Stanford University, does not tell a very flattering story of the way in which the Philippine survey was conducted, but anyone who wishes to inspect the station records of the cruise is at liberty to draw his own conclusions.

today with exercises aboard the steamship *Albatross,* moored at Battery Wharf. The recently incorporated American Nautical Schools, Inc., is planning to arrange three cruises of 15 days each during the summer for boys. . . . Mrs. Nathaniel F. Emmons of Hingham hoisted the house flag of the organization in the rigging of the ship which will be moved to the foot of State Street.

WASHINGTON STAR:

Washington, D. C., 18 October 1928. Hamburg, Germany, October 18. A demand of the crew of the American schoolship *Albatross* that the vessel be auctioned and the proceeds used to satisfy the crew's demands for wages was granted in court yesterday. The date of the auction cannot be decided until public notice is given in the United States.

The crew of 17 men have been on board the ship since her arrival. Several will be returned to the United States on the steamship *President Roosevelt,* leaving Bremen on October 24. The rest will follow later. The *Albatross* was attached by the harbormaster after its arrival in Hamburg at the request of officers and the crew. The schoolship was backed by the American Nautical School Inc., of Boston and sailed from that port for Europe July 12 with 119 pupils aboard. Many of the pupils left the vessel at Cork, LeHavre, and Amsterdam, and when Hamburg was reached only 21 remained aboard.

There seems to be no record of the *Albatross* after her tieup at Hamburg as a result of this dispute. No public notice of auction was given. It is possible that the ship remained tied up in Hamburg after 1928, but it is certain that if the vessel was there at the beginning of the war, she has since been destroyed or scrapped for her metal.[6]

III

The published results of the work of the *Albatross* would fill an extensive bibliography of titles on such subjects as anthropology and ornithology as well as those on fisheries and marine zoölogy which are usually associated with the name of the vessel. The actual bulk of these papers must be several times that of the *Challenger's* famous fifty folio volumes. In 1901, C. H. Townsend, Naturalist of the *Albatross* for many years, prepared a bibliography of 233 papers based on the surveys and collections of the *Albatross* which had been published up to that time.[7] Since then no effort has been made to bring this bibliography up to date, and indeed it would be an almost impossible task.

[6] According to Denis McCarthy, Secretary of the Boston local of the Masters, Mates & Pilots, Captain H. E. Ricker was mate, and Captain Glen D. Hawes second mate, of the *Albatross* on her last cruise. He has no record of the Master's name and could give no further information on the fate of the ship. I was unable to locate either Captain Ricker or Captain Hawes.

[7] C. H. Townsend, 'Dredging and other records of the Steamer *Albatross,* with bibliography relative to the work of the vessel,' *Report, U. S. Fish Commission,* 1900, pp. 389-562, pls. 1-4, charts.

The results of the expeditions directed by Alexander Agassiz have been published, for the most part, in the *Bulletin* and *Memoirs* of the Museum of Comparative Zoölogy. In the *Memoirs* series alone, twenty-one entire volumes are devoted to *Albatross* material. Other series which include the results of work done by the vessel are the *Bulletin of the U. S. National Museum* and the bulletins and reports of the United States Bureau of Fisheries.

The most notable achievements of the *Albatross* are of course in the field of fisheries. The extent and value of the salmon and halibut fisheries of Alaska, as well as of the tropical species of the Hawaiian and Philippine Islands, were first ascertained by the *Albatross*. In the course of this work, the waters of the Aleutians and Bering Sea were charted in great detail, and some of these charts are still useful today. Her name is also intimately associated with the Bering Sea Patrol, which made possible the re-establishment of the valuable seal herds of the Pribilof Islands.

During her years in the service of the Bureau of Fisheries the *Albatross* was a training ship for many naturalists who have earned prominent places in American science, and it is practically impossible to name an eminent American zoölogist who has not been associated in some way with the *Albatross*. Nor has this influence ceased, although the vessel must be 'presumed lost,' for there still remain a large number of unsorted collections to give rising young zoölogists something to cut their teeth on. It will be many years before the last *Albatross* report is published. American science owes many things to Spencer Fullerton Baird, and not the least of its debts is the *Albatross*, which was built in fulfillment of his 'long cherished dream.'

APPENDIX A

CHRONOLOGY OF THE U. S. FISHERIES STEAMER *ALBATROSS*

By Waldo L. Schmitt

This chronology has been compiled largely from the published reports of the United States Fish Commission, later the United States Bureau of Fisheries, amplified from the ship's log books which are now in the care of the National Archives.[1] Some of the statements and the few brief quotations have been taken directly from these annual reports. The serially numbered stations occupied by the *Albatross* in the course of her several cruises were for the greater part characterized as dredging and hydrographic stations by the letters D. and H. respectively before the station

[1] From the set of *Albatross* logs in the Archives, all before 1 January 1884 seem to be wanting, as well as those for the intervals from 1 January 1891 to 31 December 1893; 1 July 1901 to 30 April 1904; 1 July 1905 to 30 June 1907; 21 February to 30 April 1910, inclusive.

numbers. The nature of the stations of other numbered series has been indicated where they are listed, along with mention of the cruises of which they are a part, except the stations made during the Atlantic cruises of 1919 and 1920, the numbers of which constitute an entirely new series of *Albatross* stations preceded by the letter C.

The names of the members of the scientific and other civilian staff attached to or accompanying the vessel, or those who may have had over-all direction of particular investigations, are given in so far as they could be readily ascertained. Where listing has not been repeated the staff was essentially the same as on the preceding cruise. A list of the commanding officers, with dates of service, forms Appendix B. This list has been checked against one prepared by Mr. Hedgpeth and another by Lieutenant W. M. Whitehill, U.S.N.R., Office of Naval Records and Library, Navy Department, Washington, D. C.

Regrettably, it is not possible at this time to state the total number of days at sea or miles steamed by cruises or otherwise, as much as this data was desired by Mr. Hedgpeth, for whom this brief chronology was put together in discharge of an obligation assumed when he undertook his account of the *Albatross*, of which this résumé forms the first appendix. It is sincerely to be hoped that Mr. Hedgpeth will soon be able to consummate the complete and anecdotal history and chronology of the *Albatross* that he has in contemplation.

It has been a pleasure to contribute these few notes to the memory of the *Albatross*, on which I had both the honor and pleasure of serving a few years.

1882

19 *October. Albatross* was launched, Wilmington, Delaware.

1882-1883

30 *December* - 13 *February;* trial trips between Wilmington, Delaware, and Washington, D. C., and return after alterations to engines. James E. Benedict, first resident naturalist, appointed 14 December 1882.

1883

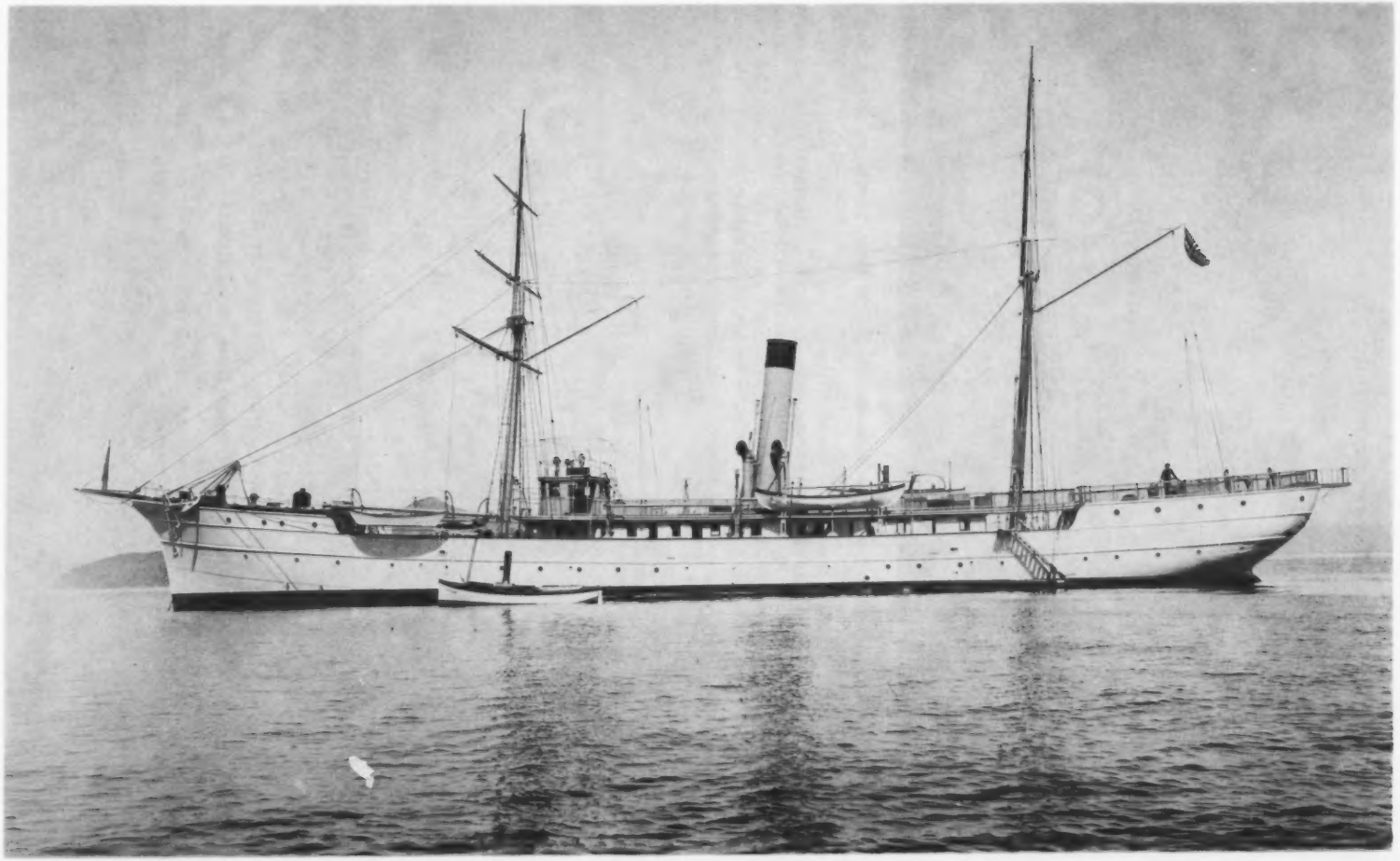
21-25 *March*; Wilmington, Delaware to Washington, D. C., making several experimental dredge hauls en route, the first for the *Albatross*.

D. 2001, 22 March - D. 2006, 23 March.[2]

24 *April* - 13 *November*; Washington, D. C. to Woods Hole, Massachusetts, and return; investigating migrations of mackerel, menhaden, and other migratory species, with various shorter dredging trips out of Woods Hole, to Gulf Stream, and tilefish grounds. Resident naturalist, James E. Benedict, assisted by Sanderson Smith, Ensign W. E. Safford, and Captain Jacob Almy, expert fisherman who was replaced by Captain J. W. Collins on 13 October. A footnote concerning the scientific personnel on the various shorter trips made out of Woods Hole, lifted bodily from Verrill, A. E., 'Results of the explorations of the Steamer *Albatross* off the northern coast of the United States, in 1883,' *Representative Commissioner* [United States Commission Fish and Fisheries] *for 1883*, p. 503 [1885], is not inappropriate here; a number of those mentioned also participated in subsequent trips of the *Albatross*. 'It is but just to say that the unusual thoroughness and remarkable success of these explorations of the Gulf Stream region have been due to the great skill and untiring zeal and energy of Captain Tanner, who has personally superintended all our deep-sea dredging operations during the past five years. It is proper to add that his efforts have been well supported by the other officers associated with him.'

'The naturalists associated with the writer in this work in 1883 were: Prof. S. I. Smith, Mr. Sanderson Smith, Prof. L. A. Lee, Mr. Richard Rathbun, Mr. J. H. Emerton (also as artist), Mr. B. F. Koons, Prof. Edwin Linton, Mr. H. L. Bruner, Mr. J. E. Benedict (naturalist attached to the steamer), Mr. R. S. Tarr, W. E. Safford, ensign U.S.N., and others, more or less. Mr. Peter Parker, Mr. John A. Ryder, Dr. Theodore Gill, and R. H. Miner, ensign U.S.N., worked on the

[2] Station numbers preceded by a D are *Albatross* dredging stations: H stands for hydrographic stations.

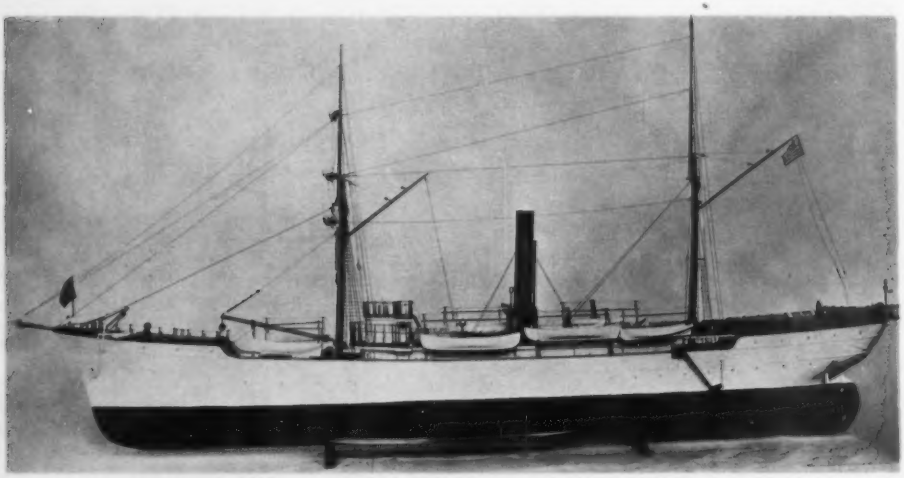


U. S. Fish Commission Steamer *Albatross*

Reproduced from a photograph in the records of the Fish and Wildlife Service, Bureau of Fisheries, in the National Archives

U. S. Fish Commission Steamer *Albatross* in Borja Bay, Straits of Magellan, 1 February 1888

Reproduced from a photograph in the National Archives



Model of U. S. Fish Commission Steamer *Albatross*

U. S. National Museum, Washington, D. C.

fishes. The parties who went out dredging on the steamer varied from time to time. Usually only three or four naturalists, besides Mr. Benedict, could be properly accommodated on board. I took no part in this portion of the work, in 1883, not going out on the steamer at all.'

D. 2007, 27 April - D. 2116, 11 November; H. 1, 19 May - H. 35, 20 September.

1884

10 *January* - 16 *May*; out of Norfolk, Virginia, returning to Washington, D. C.; hydrographic work in the Caribbean area at the request of the Navy Department with biological investigations at sea and ashore. Resident naturalist, J. E. Benedict, assisted by Willard Nye, Jr., and Ensigns L. M. Garrett, R. H. Miner, in charge of fishes, and A. A. Ackerman, in charge of geology and mineralogy. Ensign Ackerman was detached to accompany the Greeley Relief Expedition on 27 March.

D. 2117, 27 January - D. 2169, 1 May; H. 36, 11 January - H. 523, 14 May.

12 *July* - 23 *October*; Washington, D. C. to Woods Hole, Massachusetts and return; studying migrations of surface fish from Capes of the Chesapeake to the Gulf of Maine; examining former tilefish grounds and studying influence of Gulf Stream on bottom fauna; with fishing trials and dredge hauls en route. From 26 August-2 September, *Albatross* was at service of Secretary of Navy at Newport, Rhode Island, during the review of the North Atlantic Squadron. Resident naturalist, J. E. Benedict, assisted by Sanderson Smith and Peter Parker, Jr., and for varying periods of time by Richard Rathbun, Willard Nye, Jr., and A. H. Baldwin.

D. 2170, 20 July - D. 2310, 21 October; H. 524, 20 July - H. 561, 21 October.

1885

3 *January* - 7 *June*; Washington, D. C. to Pensacola, Florida, New Orleans, Louisiana, and return; investigation of red-snapper banks and fisheries of Gulf of Mexico; from 20 February - 1 March *Albatross* was on display at dock in New Orleans as part of the United States Fish Commission exhibit at the International Exposition; on return trip to Washington and out of Washington a search was made for tilefish. Resident naturalist, J. E. Benedict, assisted by T. H. Bean, Thomas Lee, and Captain J. W. Collins; the investigation of the red snapper banks was carried on for a time under the guidance of Silas Stearns, of Pensacola, and at another period by Asa Ward, expert snapper fisherman.

D. 2311, 5 January - D. 2426, 4 June; H. 562, 5 January - H. 742, 6 June.

13 *June* - 24 *October*; Washington, D. C., to Woods Hole, Massachusetts and return; chiefly an investigation of the fishing banks off Newfoundland, with some time spent in search of tilefish, and on return trip in fishery investigations off the 'Capes of Delaware and Chesapeake.' Resident naturalist, J. E. Benedict, assisted for varying periods of time by Sanderson Smith, Willard Nye, Jr., Captain J. W. Collins, L. A. Lee, and W. Libbey, Jr.

D. 2427, 23 June - D. 2628, 21 October; H. 743, 19 June - H. 868, 20 October.

1886

17 February - 10 May; from Washington to the Bahamas and return; fisheries and hydrographic survey. Resident naturalist, J. E. Benedict, assisted by Thomas Lee, C. H. Townsend, Willard Nye, Jr., and F. L. Washburn.

D. 2629, 8 March - D. 2679, 6 May; H. 869, 23 February - H. 1013, 5 May.

8 *July* - 28 *October*; Washington, D. C., to Woods Hole, Massachusetts and return; chiefly an examination of the cod and halibut banks off the British Provinces; with search for tilefish and off-shore dredging out of Woods Hole and enroute to Washington. Resident naturalist, J. E. Benedict, assisted by Thomas Lee, Sanderson Smith, and E. H. Shuster, captain's clerk. Thomas Lee succeeded J. E. Benedict on 1 September.

D. 2680, 16 July - D. 2735, 26 October; H. 1014, 18 July - H. 1089, 27 August.

1887

5 *April* - 9 *April*; Washington, D. C., to Norfolk, Virginia, and return; trial dredging trip to instruct officers of U. S. Steamer *Thetis* in methods of handling apparatus supplied the *Thetis* for use in the North Pacific and Arctic Ocean. [Except for this short trip, the *Albatross* remained in port at Washington and Baltimore from 1 January to 13 September, preparing for the Pacific coast cruise.]

D. 2736, 2737, 8 April.

14 *September* - 22 *October*; Baltimore, Maryland, to Woods Hole, Massachusetts, and return to Washington, D. C.; trial trip testing new boilers; sounding and dredging along inner edge of Gulf Stream; remained in Woods Hole a month.

D. 2738, 16 September - D. 2749, 19 September; H. 1090, 1091, 18 September.

1887-1888

10 *November* 1887 - 11 *May* 1888; Washington, D. C., to San Francisco, California; circumnavigation of South America, with biological and hydrographic investigations en route; 85 days, 5 hours underway, steaming 15,956.7 miles (given in the engineer's report as 16,320.4 nautical miles). Scientific staff on board, Leslie A. Lee, in charge, assisted by Thomas Lee, Charles H. Townsend, and Dennis Cole, preparator. The dredging and hydrographic stations in this instance are for convenience grouped east and west coast, the latter also before, in the vicinity of, and after the Galápagos Islands:

Norfolk, Va., *Albatross* put out to sea 21 November 1887.

D. 2750, 27 November - D. 2779, 23 January 1888; H. 1092, 6 December - H. 1112, 12 January 1888.
Surface townet stations: 1, 22 November 1887 - 14, 17 January 1888.

'Sandy Point,' Punta Arenas, Straits of Magellan, at anchor 23 January - 1 February 1888.

D. 2780, 1 February - D. 2809, 4 April; H. 1113, 31 March - H. 1119, 3 April.
Surface townet stations: 15, 24 February - 26, 30 April.

Galápagos Islands, anchored in Wreck Bay, Chatham Island, 4 April 1888.

D. 2810, 7 April - D. 2819, 15 April; H. 1120, 7 April - H. 1126, 17 April.
Surface townet stations: 27, 4 April - 31, 15 April.

Galápagos Islands, passed Wenman and Culpepper 17 April 1888.

D. 2820, 26 April - D. 2840, 9 May; H. 1127, 19 April - H. 1129, 21 April.

San Francisco, California, anchored off foot of Washington Street, 11 May 1888, 7 A.M.

1888

4 *July* - 21 *October*; San Francisco to Alaska and return; exploration of region south of the Alaskan peninsula; between 17 September and 21 October examining the waters off the Washington and Oregon coasts. Charles H. Gilbert, chief naturalist and ichthyologist (for Alaskan cruise only); resident naturalist, Charles H. Townsend; fishery expert, A. B. Alexander; captain's clerk, Louis de F. Bartlett.

D. 2841, 23 July - D. 2865, 6 September; H. 1130, 19 July - H. 1497, 1 September.

D. 2866, 20 September - D. 2890, 19 October; H. 1498, 19 September - H. 1606, 19 October.

1889

3 *January* - 25 *April*; San Francisco to San Diego and Gulf of California and return; exploration of area between Point Conception and Mexican boundary line; after 26 February sounding off Lower California and examining the fishery resources of the Gulf of California and the oyster beds of Guaymas, Mexico. C. H. Gilbert, chief naturalist and ichthyologist (until August 1889); resident naturalist, C. H. Townsend; fishery expert, A. B. Alexander; captain's clerk, Harry Clifford Fassett.

D. 2891, 5 January - D. 2982, 12 February; H. 1607, 5 January - H. 1771, 14 February.

D. 2983, 28 February - D. 3045, 10 April; H. 1772, 26 February - H. 1883, 27 March.

21 *May* - 28 *May*; San Francisco, California, to Victoria, British Columbia, for purpose of taking Congressional Committee on Relations with Canada to southeast Alaska, but, owing to change of Committee's plans, trip was abandoned.

6 *June* - 29 *June*; out of Seattle, Washington; fishery and hydrographic investigations off the coasts of Washington and Oregon.

D. 3046, 7 June - D. 3076, 29 June; H. 1834, 7 June - H. 1857, 29 June.

8 *July* - 28 *July*; out of Tacoma, Washington, with several members of Senate Committee on Indian Affairs to visit the principal Indian settlements in southeast Alaska as far north as Sitka and Juneau: Senators H. L. Dawes, F. B. Stockbridge, C. F. Manderson, and J. K. Jones. One dredge haul made off southeast Alaska.

D. 3077, 23 July.

1 *August* - 11 *August*; out of Port Townsend, Washington; *Albatross* started for work in Bering Sea, but on 7 August, port engine broke down 649 miles out of port, necessitating return for repairs; repairs completed 22 August.

22 *August* - 25 *October*; Port Townsend, Washington, to San Francisco, California; continuation of fishery investigations off coasts of Washington, Oregon, and California; during period 28 September - 9 October *Albatross* was on exhibition at Portland, Oregon, in connection with the Northern Pacific Industrial Exposition, 'Between 24,000 and 30,000 people visited the ship during the twelve days she was open for inspection.'

D. 3078, 1 September - D. 3096, 12 September; H. 1858, 28 August - H. 2152, 14 October.

1889 - 1890

25 *October* 1889 - 5 *March* 1890; at Mare Island, California, undergoing general overhaul, after which two trials were made in San Pablo Bay.

D. 3097, D. 3098, 5 March.

1890

10 *March* - 3 *April*; investigations off California coast between Points Arena and Conception, with shore collecting and seining at various points.

D. 3099, 10 March - D. 3209, 12 April; H. 2153, 11 March - H. 2277, 11 April.

5 *May* - 26 *September*; San Francisco to Bering Sea and return; 'fishery investigations in Alaskan waters and the Bering Sea . . . defining the fishing grounds and determining the physical and natural history features'; and after 16 September continuation of work off Washington, Oregon, and California coasts. C. H. Gilbert, chief naturalist and ichthyologist (from 1 May); resident naturalist C. H. Townsend; fishery expert, A. B. Alexander; scientific assistant, N. B. Miller; captain's clerk, H. C. Fassett.

D. 3210, 21 May - D. 3342, 3 September; H. 2278, 21 May - H. 2571, 3 September.

D. 3343, 21 September - D. 3352, 25 September; H. 2572, 24 September - H. 2608, 25 September.

1891

30 *January* - 5 *May*; out of San Francisco, California; special expedition authorized by the President of the United States off the west coast of Mexico, Central America, and the region about the Galápagos Islands [first Agassiz-*Albatross* expedition] under the direction of Alexander Agassiz [Professor Agassiz joined the ship in Panama, 22 February, and left at Guaymas, Mexico, 23 April, marking end of work of the *Albatross* for the cruise]. Resident naturalist, C. H. Townsend; fishery expert, A. B. Alexander; scientific assistant, N. B. Miller; captain's clerk, H. C. Fassett.

D. 3353, 23 February - D. 3437, 23 April; H. 2609, 23 February - H. 2638, 23 April.

16 *July* - 9 *September*; out of San Francisco, California; by direction of the President the *Albatross* was detailed to take the American members, Thomas C. Mendenhall and C. Hart Merriam, of the Bering Sea Commission to the Pribilof Islands in 'preparation of the Bering Sea case before the proposed Tribunal of Arbitration at Paris'; for the period 27 August to 14 September an investigation was made of the waters of the Straits of Fuca.

D. 3438, 3 August - D. 3442, 3 August; H. 2639, 3 August - H. 2641, 11 August.

D. 3443, 27 August - D. 3466, 4 September; H. 2642, 28 August - H. 2654, 4 September.

1891 - 1892

9 *October* 1891 - 16 *January* 1892; out of San Francisco, California; *Albatross* was placed under the direction of the Secretary of the Navy for the purpose of determining a practicable route for a telegraphic cable btween San Francisco and Honolulu, Hawaii ['Hawaiian Islands' or 'Pacific

Cable Survey']; a few dredge hauls and some plankton samples were taken incidental to the hydrographic operations of the survey. During the survey C. H. Townsend, resident naturalist, and A. B. Alexander, fishery expert, were assigned to temporary duty ashore.

D. 3467, 3 December - D. 3476, 6 December; H. 2655,[3] 11 October - H. 3202, 15 January.

1892

19 *March* - 3 *September*; San Francisco, California to Unalaska, Bering Sea, Aleutians, Commander Islands, and return; under orders from the President, *Albatross* was placed in the Revenue Marine Division under the Secretary of the Treasury, in connection with fur seal investigations and the gathering of information on questions at issue between Great Britain and United States. Barton Warren Everman, in charge of scientific work; resident naturalist, C. H. Townsend; scientific assistant, A. B. Alexander; fishery expert, N. B. Miller; captain's clerk, H. C. Fassett; Joseph Murray, special agent of United States Treasury; J. E. Lennan, seal hunter and Alaska pilot; N. Hodgson, seal hunter and interpreter of 'Chinook jargon.' In July Alexander and one seal hunter transferred for a time to the Revenue Steamer *Corwin*, and Townsend and other hunter to *Rush*, to carry out *Albatross'* uncompleted orders when she was forced to return to San Francisco because of leaky boilers. Despite the handicap of steaming on one temporarily repaired boiler, the *Albatross* delivered a confiscated sailing schooner to Sitka on 11 August, and, while there, went out and rescued the whaling bark *Lydia*, adrift at sea.

H. 3203, 7 April - H. 3239, 31 May.

1893

25-27 *April*; out of San Francisco, California; after spending eight months at Mare Island under repair and refitting, a short trial trip was run off Monterey, California.

D. 3477, 26 April - D. 3479, 27 April; H. 3240, 26 April - H. 3241, 27 April.
Intermediate townet stations: 31, 26 April, 32, 27 April.

20 *May* - 30 *September*; San Francisco, California, to Aleutian and Pribilof Islands, in continuation of the Alaskan fur seal and fishery investigations and patrol duty with the United States Naval Force in the Bering Sea. While Townsend and Miller spent some time ashore on St. George, and later St. Paul Island, Passed Assistant Surgeon, T. A. Berryhill, U.S.N., took over the naturalists' duties.

D. 3480, 8 July - D. 3561, 3 September; H. 3242, 5 June - H. 3488, 17 September.

Intermediate townet stations: 33, 3 August - 44, 1 September.

1894

2 *January* - 30 *March*; San Francisco, to San Diego, California, and return; biological survey of San Diego Bay; conducted by N. B. Miller, scientific assistant.

D. 3562, 19 March - D. 3591, 24 March.

14 *April* - 17 *October*; San Francisco, California, to Puget Sound, Bering Sea, western Aleutians, and return; 19 April - 5 May assisted investigation of sea and salmon fisheries in Puget Sound region; during this period Captain Tanner, who on 1 May relinquished command of the *Albatross* which he had held continuously since she was launched, undertook a practice run on 30 April for the purpose of instructing his relief, Lieutenant-Commander F. J. Drake, in the handling of the apparatus and in the methods employed in submarine exploration; remainder of cruise was devoted to Bering Sea patrol under direction of Secretary of the Navy and some study of fishing grounds, as well as pelagic habits of the fur seals, and their rookeries on the Pribilof Islands. Resident naturalist, C. H. Townsend; fishery expert, A. B. Alexander; scientific assistant, N. B. Miller; seal hunter, James E. Lennan.

D. 3592, 30 April - D. 3597, 30 April. Intermediate townet station: 45, 30 April.

D. 3598, 8 June - D. 3600, 26 June; H. 3489 (no data), 3490, 6 June - H. 3532, 7 August.

1895

18 *May* - 20 *October* 1896; San Francisco, California, to Bering Sea, Pribilof Islands, and return; this year *Albatross* was designated by the President to take part in enforcing regulations governing vessels employed in fur seal fishery, but directed to act independently of the Bering Sea fleet; observations on fur seals, fishery, and hydrographic investigations. Resident naturalist, C. H. Townsend; fishery expert, A. B. Alexander; scientific assistant, N. B. Miller; Alexander joined ship at Port Townsend, Washington, as did also F. W. True and D. W. Prentiss, Jr.; Leon-

[3] Townet stations occupied during this cable survey were originally serially numbered beginning with 1. They are in all relevant details identical with the regular hydrographic stations occupied at the same place and time of day.

hard Stejneger came aboard at Unalaska. True, Prentiss, and Miller were landed on the Pribilofs, while Stejneger was taken to the Commander Islands. On the return trip, for several days following 18 September the *Albatross* was open to visitors as one of the exhibits at the State Fair at New Whatcom, Washington, later devoting nearly a month to an investigation of the Puget Sound salmon fisheries.

D. 3601, 5 August - D. 3611, 22 August; D. 3612, 30 September (off Bellingham, Washington); H. 3533, 13 June (South of Alaska peninsula) - H. 3650, 25 August; H. 3651 (no data).

Intermediate and surface townet stations: 46, 5 August - 63, 22 August.

1896

22 *January* - 28 *April*; San Francisco, California, to San Diego, and return; physical and natural history survey of San Diego Bay and Cortez and Tanner Banks offshore; 20-26 April at San Pedro taking part in 'La Fiesta de los Angeles.' All but last four stations listed, one dredging and three hydrographic, were made in San Diego Bay.

D. 3613, 31 March - D. 3626, 1 April; D. 3627, 13 April; H. 3652, 13 April - H. 3654, 13 April.

17-18 *May*; out of San Francisco, California, *Albatross* was used in connection with official speed trial of U. S. S. *Oregon*.

May, a great part of, and early June were devoted to an investigation of oyster grounds of San Francisco Bay and the suitability of the Bay for oyster culture.

D. 3628, 1 June - D. 3633, 1 June.

5 *June* - 11 *December*; San Francisco, California, to Pribilof Islands, Commander Islands, Okhotsk Sea, Kurile Islands, Japan, and return via Hawaii; on special detail for the use of a commission to investigate the condition of the fur seal herds on the seal islands of the north Pacific and Bering Sea. The United States Fur Seal Commission consisted of David Starr Jordan, Leonhard Stejneger, F. A. Lucas, Lieutenant-Commander Jefferson F. Moser (commanding the *Albatross*), C. H. Townsend, Colonel Joseph Murray, and George Archibald Clark. Two members of the independent British commission, D'Arcy Wentworth Thompson and James M. Macoun, together with A. Marett, photographer, were transported to the Pribilofs. All Commissioners visited the Pribilofs; Stejneger and Moser visited the Asiatic Islands.

D. 3634, 7 July - D. 3661, 13 October; H. 3655, 7 July - H. 3718, 7 September.

1896-1897

30 *December* 1896 - 25 *April* 1897; San Francisco, California, to San Diego and return; provisional examination of the fishing grounds off the coast of Los Angeles County, Monterey, and in the vicinity of the Farallon Islands to explore the possibilities of an extension of the offshore fisheries.

D. 3662, 8 April - D. 3672, 24 April; H. 3719, 7 April - H. 3727, 24 April.

1897

8 *May* - 2 *November*; San Francisco, California, to Puget Sound, British Columbia, Alaska, and return; for first time in many years *Albatross* was available exclusively for fishery work, spending latter part of May in the Puget Sound area and off Cape Flattery; 29 May headed north to make 'a systematic study of the streams of southeast Alaska to determine their resources, and the abundance, movements, and habits of their fishes'; as opportunity offered en route, efforts were made toward the location of new halibut banks. F. M. Chamberlain, scientific assistant; A. B. Alexander, fishery expert; H. C. Fassett, captain's clerk.

D. 3673, 14 May (Flattery Bank); D. 3674, 19 July - D. 3673, 19 July (off Karluk, Kodiak Island).[4]

Serial No.	*Date 1897*	*Bearing (off Karluk, Kadiak Id., Alaska)*	*Surface temp.*	*Bottom temp.*	*Fath. depth*	*Kind of bottom*	*Instrument used, etc.*
3674	July 19	Cape Ugat, N.E. by N., Cape Karluk S.S.W. ¼ W. Church S.S.E. ½ E.	50	46.4	31	gy. s. sh.	11-ft. beam trawl
3675	"	Cape Ugat, N.E. by E., Church S.E. ¼ S.	50	39.	110	gn. mud	Do.
3676	"	Karluk Head S.E. ½ E. other points hidden by thick weather.	50	39.1	122	" "	Do.

[4] Data for the last three stations was never published. The following is taken from the *Albatross* log and deck books.

5-6 *December*; San Francisco, California, out to Farallon Islands and return; to plant shipment of eastern lobsters and tautog. Of the original shipment received by rail from the east coast 35 male and 229 female lobsters and 5 tautog survived for planting off the southeast Farallons; planted 2.27 A.M., 6 December.

1897-1898

20 *December* - 6 *April* 1898; San Francisco to San Diego, California, and return. While lying off San Diego, vessel functioned as base for a survey of the fisheries of San Diego County conducted by Cloudsley Rutter, fishery expert, and F. M. Chamberlain, scientific assistant. On 27 March crew saved a man from an over-turned row-boat about four hundred yards astern of ship's anchorage.

D. 3677, 24 March - D. 3680, 24 March.[5]

Serial No.	*Date 1898*	*Position (South of San Diego Bay)* *Lat. N.*	*Long. W.*	*Surface temp.*	*Bottom temp.*	*Fath. depth*	*Kind of bottom*	*Instrument used, etc.*
3677	March 24	32.33.30	117.21.30	56	48.	65	gn. mud fine s.	11-ft. beam trawl
3678	"	32.31.	117.15		54	28	gy.s. yl.sp.	Do.
3679	"	32.35.	117.13.30	57	66	22	gr. m. cy. grav.	Do.
3680	"	32.37.30	117.14.30	57	54	17	gy. s. blk. sh.	Do.

1898

11 *August* - 7 *September*; San Francisco, California, to Acapulco, Mexico, and return. From 13 April - 25 August, *Albatross* was detailed by the President to the Navy Department as an auxiliary cruiser during the war with Spain. Her dredging and collecting equipment was stored at Mare Island. Repairs and alterations kept the vessel idle until early August, when cruise to Acapulco was undertaken. Principal alterations consisted of raising the pilot house, permitting the construction of two new state-rooms underneath and an upper bridge, and enlarged coal bunkers, increasing the steaming radius to 1,300 or 1,400 miles.

1899-1900

23 *August* 1899 - 4 *March* 1900; San Francisco, California, Marquesas, Paumotu, Society, Cook, Tonga, Fiji, Ellice, Gilbert, Marshall, Caroline, and Ladrone Islands, to Yokohama, Japan; [second Agassiz-]*Albatross* South Sea expedition; scientific work in charge of Alexander Agassiz, assisted by Alfred G. Mayer, W. McM. Woodworth, Maximillian Agassiz; the United States Fish Commission staff aboard the vessel for the cruise consisted of C. H. Townsend, of the Fish Commission, H. F. Moore, resident naturalist, A. B. Alexander, fishery expert, and H. C. Fassett, captain's clerk; Assistant Surgeon J. C. Pryor, U.S.N., one of the ship's staff officers, collected characteristic plants on islands visited. Agassiz, Mayer, and Moore left ship at Yokohama.

D. 3681, 27 August - D. 3694, 21 December; H. 3778,[6] 26 August - H. 4011, 21 February 1900.

4 *May* - 23 *May*; out of Yokohama; several short dredging trips off the Japanese coast. The handling of some of the dredging equipment and sounding gear was displayed to a party of students from the University of Tokyo. Professors Kakichi Mitsikuri and I. Ijima, of the Imperial University, Tokyo, were aboard for the dredging operations in the period from 4 May - 8 May.

D. 3695, 4 May - D. 3708, 8 May.

D. 3709, 10 May - D. 3765, 22 May.

1900

2 *June* - 29 *June*; Yokohama to Hakodate, Japan, and Kamchatka, north of the Aleutian Islands to Unalaska; biological collections in the north Pacific.

D. 3766, 3 June - D. 3786, 27 June; H. 4012, 2 June - H. 4032, 27 June.

3 *July* - 30 *October*; from Unalaska to the Bering Sea, returning to San Francisco, California; continuation of commercial investigation of the salmon fisheries of Alaska begun in 1897; also to verify and complete records made at that time.

[5] Data for these stations was never published. The following was taken from the *Albatross* deck book.

[6] Serially numbered townet hauls of the Agassiz-*Albatross* expedition of 1899-1900 beginning with number 1 correspond to the *Albatross* hydrographic (H.) stations made at the same place and time of day. Data for Stations H. 3728, 25 June 1897 - H. 3777, 1 April 1898 were never published. The ship's original deck books containing all pertinent information are, however, available for consultation in the Library of the United States National Museum.

1901

23 *April* - 30 *October*; San Francisco, California, to Seattle, Washington, and south east Alaska, and return; further investigation of salmon fisheries of south east Alaska; on return voyage in September and October the waters off the coasts of Washington, Oregon, and northern California were examined to ascertain the movements of salmon at sea, and their suitability for the introduction of eastern lobsters and crabs.

D. 3787, 25 April - D. 3790, 30 April. H. 4033, H. 4034, 29 April (see footnote under 1902. 11 March - 1 September).

1902

11 *March* - 1 *September*; San Francisco, California, to Hawaii and return; investigation of the fishes and other aquatic resources of the islands; under the general direction of David Starr Jordan and Barton Warren Evermann; investigators on board the *Albatross*, Charles H. Gilbert, J. O. Snyder, Walter K. Fisher, Charles C. Nutting, and A. B. Alexander, fishery expert, and F. M. Chamberlain, scientific assistant of the permanent staff of the vessel.

D. 3791, 14 March - D. 4190, 27 August.[7]

1903

11 *June* - 24 *September*; San Francisco, California, Seattle, south east Alaska, Bering Sea and return; in the interests of conservation the President requested the Commissioner of Fish and Fisheries to appoint a special commission to study the condition and needs of the Alaskan salmon fisheries and to submit recommendations useful for the proper regulation and preservation of those important fisheries. As these investigations necessitated visits to numerous remote salmon streams, canneries, and salteries in Alaska, the *Albatross* was detailed to the commission which consisted of D. S. Jordan, executive head, B. W. Evermann, Lieutenant Franklin Swift, commanding the vessel, Cloudsley Rutter, resident naturalist, A. B. Alexander, fishery expert, J. Nelson Wisner, field superintendent of fish cultural stations. Assistants appointed: F. M. Chamberlain, scientific assistant on the *Albatross*, E. L. Goldsborough, H. C. Fassett, captain's clerk, A. H. Baldwin, artist, Harold Heath, C. H. Gilbert, M. H. Spaulding, and Harold Jordan. Of the foregoing, Chamberlain went to Loring, Rutter and Spaulding to Karluk, Gilbert to Bristol Bay, the others with the *Albatross*.

D. 4191, 19 June - D. 4302, 24 August; H. 4721, 19 June - H. 4788, 28 August.

1904

17 *February* - 15 *June*; San Francisco, to San Diego, California, and return; a study of marine biology and fishery resources of southern California in Monterey Bay and south of Point Conception in cooperation with Stanford University and the University of California. F. M. Chamberlain, resident naturalist.

D. 4303, 1 March - D. 4564, 11 June; H. 4789, 3 March - H. 4803, 7 April.

16 *September*; out of San Francisco; dredging and sounding; purpose of trip not stated in ship's log.

D. 5465, D. 5466, 16 September; H. 4804, 16 September.

1904-1905

6 *October* 1904 - 5 *April* 1905; San Francisco, California, to Panama, Galápagos Islands, Callao, Peru, Easter and Gambier Islands, Acapulco, Mexico, and return; [third Agassiz-] *Albatross* expedition of scientific exploration to the eastern tropical Pacific under the personal direction of Alexander Agassiz, assisted by C. A. Kofoid, H. B. Bigelow, Magnus Westergren, artist, and F. M. Chamberlain, resident naturalist and L. M. Tongue, captain's clerk, of the permanent staff of the vessel. The scientific work of the cruise ended 24 February at Acapulco, where Agassiz left the ship.

D. 4567, 6 October - D. 4743, 15 February 1905; H. 4805, 3 November - H. 4848, 24 February 1905.

1905

18 *May* - 16 *November*; San Francisco, California, to Yes Bay, Alaska, and return; installing salmon hatchery at Yes Bay; a number of plankton tows were made between Puget Sound and Wrangell Island, Alaska. F. M. Chamberlain, resident naturalist.

D. 4744, 26 June - D. 4756, 16 November.

[7] Data for stations H. 4033, 29 April 1901 - H. 4720, 13 August 1902 were never published. The ship's original deck books containing all pertinent information are, however, available for consultation in the Library of the United States National Museum.

1906

3 *May* - 10 *December*; San Francisco, California, north and south of the Aleutians to the Commander Islands, Kamchatka, Okhotsk Sea, Kuriles, Japan, Korean coast, and return; investigation of salmon fisheries, distribution of fishes, and scientific exploration in the northern Pacific Ocean. At the time of the disastrous San Francisco earthquake in April, the *Albatross* personnel, with that of the other naval vessels in port at the time, performed efficient and meritorius service in assisting the sufferers. C. H. Gilbert, chief naturalist and ichthyologist; Austin H. Clark, resident naturalist; L. M. Tongue, captain's clerk; assisted by Harry Beale Torrey, J. O. Snyder, and Victor Burke. Harold Heath joined the expedition in Nagasaki. On the return trip the commanding officer, Captain L. M. Garrett, was lost at sea, 21 November.

D. 4757, 4 May - D. 5095, 26 October; H. 4849, 1 June - H. 4896, 17 October.

1907 - 1910

16 *October* - 4 *May* 1910; San Francisco, California, to the Philippines by way of Hawaii, Midway, and Guam, and return; survey of the fisheries and aquatic resources of the Philippine Islands and adjacent seas under the personal direction of Hugh M. Smith, Deputy Commissioner of Fisheries; F. M. Chamberlain, naturalist; H. C. Fasset, fishery expert; Lewis L. Radcliffe, scientific assistant; Paul Bartsch, Albert L. Barrows, Alvin Seale, Roy Chapman Andrews, and Wells, captain's clerk. Smith, Radcliffe, and Bartsch left the ship in the order named during the first year, while Barrows, Seale, and Andrews served aboard for varying intervals during the remainder of the cruise. Many unnumbered shore, reef, seine, and dynamite collecting stations were occupied in the course of the cruise.

D. 5096, 2 January 1908 - D. 5672, 30 December 1909; H. 4897, 5 February 1908 - H. 4937, 20 December 1909.

1910

9 *July* - 20 *September*; San Francisco, California, to Alaska and the Pribilof Islands and return; cruise of inspection by the Secretary of Commerce and the Attorney General of the government activities in which the Department of Commerce and Labor was interested.

1911

23 *February* - 28 *April*; San Francisco, California, to the Gulf of California and return; scientific expedition to Lower California and adjacent islands in cooperation with the American Museum of Natural History, under the personal direction of C. H. Townsend, director of the New York Aquarium, with J. N. Rose, botanist, Paul Bartsch, conchologist, H. E. Anthony and P. I. Osburn, collectors, James C. Bell, modeler, and members of the ship's staff, L. M. Tongue, fishery expert, Waldo L. Schmitt, scientific assistant.

D. 5673, 1 March - D. 5699, 27 April.

17 *May* - 2 *September*; San Francisco, California, to south east Alaska and Gulf of Alaska and return; examination of existing and search for new halibut and cod fishing grounds off the Pacific coast; under the personal direction of A. B. Alexander, assisted by Captain J. B. Joyce, Alaska pilot, four practical halibut fishermen, and L. M. Tongue, fishery expert; H. C. Fassett, and W. L. Schmitt, scientific assistant, were left at Chignik, Alaska, to make a study of the spawning of salmon in that area.

H. 4954, 21 August - H. 4955, 22 August.

1912-1914

30 *January* 1912 - 23 *July* 1913 and *March* 1914 *(dates of field operations)*; biological survey of San Francisco Bay, under the direction of board consisting of the commanding officer and the naturalist of the *Albatross*, Francis B. Sumner, and C. A. Kofoid, of the University of California, assisted by Edward C. Johnston, fishery expert, W. L. Schmitt, scientific assistant, Rufus A. Coleman, captain's clerk.

D. 5700, 30 January 1912 - D. 5849, 22 April 1913; H. 4956, 30 January 1912 - H. 5350, 23 July 1913; H. 5351, 5 March 1914 - H. 5365, 6 March 1914.

1914

12 *April* - 15 *September*; San Francisco to Seattle and return; survey of the fishing grounds on the coast of Washington and Oregon. Waldo L. Schmitt, naturalist, E. C. Johnston, fishery expert, Edward P. Rankin, scientific assistant, R. A. Coleman, captain's clerk, and Edward Driscoll, practical halibut fisherman, in charge of a party of four other fishermen. In the interval from 12 June -22 August the *Albatross* was dispatched to the Pribilof Islands with the Deputy Commissioner of Fisheries, E. Lester Jones, who also used the vessel for an inspection of the fisheries

in parts of central and western Alaska. Johnston and Coleman accompanied the Deputy Commissioner, while Schmitt, Rankin, Driscoll, and the fishermen continued operations from a shore base at Newport, Oregon. The stations listed below were made in the course of the fishing grounds survey.

H. 5366, 29 April - H. 5774, 5 September.

1915

6 *July* - 11 *September*; San Francisco, California, to Seattle, Washington and return; continuation of survey of fishing grounds on coasts of Washington and Oregon; this and previous year's work are essentially a resurvey of the offshore fishing grounds of the same area made by the *Albatross* in 1888-1889. E. C. Johnston, naturalist, E. P. Rankin, scientific assistant, and Edward Driscoll, practical halibut fisherman, in charge of a party of four other fishermen.

H. 5775, 9 July - H. 6408, 9 September.

1916

4 *April* - 23 *November*; San Francisco to southern and Lower California and return; investigation of distribution and migration of tuna. E. C. Johnston, naturalist; E. P. Rankin, scientific assistant; F. P. Shafer, fishery expert; and two Japanese tuna fishermen.

1917-1919

19 *November* 1917 - 23 *June* 1919; while at Oakland, California, the *Albatross* was formally placed under the control of the Navy for the period of the first World War, and transferred from the west coast to Guantanamo, Cuba, by way of the Panama Canal, chiefly for patrol duty in the Caribbean area and Gulf of Mexico.

1919

30 *October* - 15 *December*; Norfolk, Virginia, to Gulf of Mexico, Havana, Cuba, and return; chiefly hydrographic and biological investigation of Gulf Stream; off South Atlantic coast and in Gulf of Mexico; under personal direction of W. W. Welch, assisted by E. P. Rankin, naturalist, and John A. Mirguet, scientific preparator. H. F. Moore, Deputy Commissioner of Fisheries accompanied the vessel as far as Jacksonville, Florida.

C. 20001, 30 October - C. 20040, 14 December.

1920

16 *February* - 30 *May*; Baltimore, Maryland, to Boston, Massachusetts, and return;hydrographic and biological investigations in the Gulf of Maine under the general direction of Henry B. Bigelow; E. P. Rankin, naturalist.

C. 20041, 20 February - C. 20130, 19 May.

1921

29 October; *Albatross* decommissioned at Woods Hole, Massachusetts, just 39 years and 10 days from the date of her launching. The last entry in the ship's log reads as follows.

8.00 A.M. to Meridian. At 8.45 sounded quarters for muster. At 8.50 held quarters for muster, no absentees. At 9.00 A.M. hauled down colors and commission pennant placing ship out of commission and transferred the crew in accordance with the appended list.

Lt. W. L. HAWK, U.S.N., detached ordered to U.S.S. *Cormorant*.
Lt. W. B.STORK, U.S.N., " " " U.S.S. *Pyro*.
Lt. A. L. GAITHER, (MC) U.S.N., detached ordered to 5th Reg. Marines, Quantico, Virginia.
Ens. F. HUNBEUTEL, (SC) U.S.N., " " " R.S. Boston, Massachusetts.
Lt. C. E. PARKER, U.S.N., " " " U.S.S. *Bridge*.
Ens. H. A. HANSEN, U.S.N., detached to home to await orders.
Ens. J. H. SCHAD, U.S.N., " " " " " "
Comdr. L. J. WALLACE, U.S.N. " " " " " "

Signed H. A. Hansen, Ensign (T) U.S.N.

Approved L. J. Wallace, Commander, U.S.N.

Examined W. L. Hawk, Lieut. (T) U.S.N. Navigator.

The crew, listed on an appended sheet, was transferred in part to New London, Connecticut, Philadelphia, Pennsylvania, Portsmouth, New Hampshire, to the *Mayflower*, and R.S. Boston, Massachusetts. On the page facing this last entry is noted:

'Measurement of alcohol tank at 8.00 A.M. Oct. 28 m 1921.22".'

Later history of the *Albatross* about which little is known at the present time.

1924

16 *June*. Sold to Thos. Butler and Co., for $2,276.

1928

12 *July*. Sailed from Boston, Massachusetts, as training ship for group of nautical students or cadets.

18 *October*. Reported tied up in Hamburg, Germany, under attachment for indebtedness.

APPENDIX B

Commanding officers of the *Albatross* from 19 October 1882 to 29 October 1921.

Captains by courtesy, most of the commanding officers had already attained the rank of lieutenant-commander when assigned to the ship. Captain Tanner, when first appointed, Franklin Swift, A. J. Hepburn, B. G. Barthalow, and L. B. Porterfield were lieutenants; S. V. Graham, who served temporarily, was an ensign, and G. H. Burrage a commander. The ranks indicated below are the highest held while in command of the *Albatross*.

Commander Zera L. Tanner, U.S.N.	10 November 1882 - 1 May 1894
Lieutenant-Commander Franklin J. Drake, U.S.N.	1 May 1894 - 19 May 1896
Lieutenant-Commander Jefferson F. Moser, U.S.N.	19 May 1896 - 7 April 1898
Ensign S. V. Graham, U.S.N.	7 April 1898 - 30 April 1898
Lieutenant-Commander Jefferson F. Moser, U.S.N.	30 April 1898 - 14 July 1898
Lieutenant-Commander Clinton K. Curtis, U.S.N.	14 July 1898 - 9 September 1898
Commander Jefferson F. Moser, U.S.N.	9 September 1898 - 26 October 1901
Commander Chauncy Thomas, U.S.N.	26 October 1901 - 12 February 1903
Lieutenant Franklin Swift, U.S.N. (Ret.)	12 February 1903 - 3 October 1904
Commander LeRoy M. Garrett, U.S.N.	3 October 1904 - 21 November 1906
Lieutenant Arthur Japy Hepburn, U.S.N.	21 November 1906 - 17 September 1907
Commander Marbury Johnson, U.S.N.	17 September 1907 - 10 June 1908
Commander Charles Monod McCormick, U.S.N.	10 June 1908 - 8 October 1910
Lieutenant B. G. Barthalow, U.S.N.	8 October 1910 - 6 November 1910
Commander Guy Hamilton Burrage, U.S.N.	6 November 1910 - 25 May 1912
Lieutenant Lewis Broughton Porterfield, U.S.N.	25 May 1912 - 10 June 1912
Lieutenant-Commander Henry B. Soule, U.S.N.	10 June 1912 - 4 April 1914
Lieutenant Lewis Broughton Porterfield, U.S.N.	4 April 1914 - 1 July 1915
Commander John Joseph Hannigan, U.S.N.	15 July 1915 - 1 March 1919
Captain Claude S. Cochran, U.S.C.G.	1 March 1919 - 6 September 1919
Commander Levin James Wallace, U.S.N.	24 October 1919 - 29 October 1921

Early Great Lakes Steamboats

The Walk-in-the-Water

BY H. A. MUSHAM

LAKE Erie is the third link in the Great Lakes route from salt water to the prairies and plains of the West, the St. Lawrence River and Lake Ontario being the first two. In those early days there was no through communication between Lakes Ontario and Erie, goods being portaged around Niagara Falls and up and down the three hundred thirty-seven feet of elevation between them. At the east end of Erie on the American side were Black Rock and Buffalo, both small villages, the former at the upper end of the portage, the more important. Commerce on the lake was carried on by sloops, schooners, bateaux and canoes. Beyond Detroit, then the head of navigation, was the wilderness of the Indians and the fur trader broken only by Fort Mackinac on the island of that name at the head of Lake Huron and Forts Howard and Dearborn on Lake Michigan, the former at the head of Green Bay, and the latter at its southern end where deep water farthest indented the land. Around Fort Dearborn were a few traders' cabins, the settlement of Chicago.

As on Lake Ontario westward immigration afforded an opportunity for the steamboat and there were men eager to take advantage of it. Early in 1816, the *Niagara Journal* stated:

> Repeated experiments which have been made in this country and Europe appear to have established in the minds of intelligent persons acquainted with steam navigation, a confidence that steamboats properly constructed can navigate the ocean in safety, even in the most tempestuous weather. If this fact is established it follows, of course, that they can be used on the lakes with great certainty of success. Messrs. Porter, Barton & Company, we are happy to learn, are so well satisfied of this fact, that they have concluded to build next season, a steam vessel of 100 tons burthen, which is to run on the Niagara River and between this place and Detroit. If the experiment proves fortunate, and we have no doubt but that it will, the navigation of Lake Erie will, in a few years, be in a degree affected by vessels of this description. We already flatter ourselves, that at no distant period, the communication between Buffalo and Detroit will be as regular and almost as expeditious as it is now between Albany and New York.

On 31 August, the *Niles Weekly Register* remarked:

> We have them [steamboats] already partially assisted by lines of stages, from Washington City to Quebec—, from Pittsburg to New Orleans; and we shall have them on the Great Lakes . . . . Two will run between Buffalo and Detroit the ensuing spring.

The boats did not materialize in 1817, as hoped for. On Lake Ontario, the *Ontario* and *Frontenac* were proving their reliability and worth as a means of communication on deep water.[1] In the latter part of the year a company was formed at Albany to build a steamboat on Lake Erie, consisting of Joseph B. Stuart,[1a] Nathaniel Davis, Asa H. Curtis, Ralph Pratt, James Durant, and John Meads, all of that place, and Robert McQueen, Samuel McCoon, Alexander McMuir and Noah Brown of New York. Brown was to be the builder. He was of the firm of Adam and Noah Brown, noted East River shipbuilders and was thoroughly familiar with the country, having built several of the vessels for Perry's fleet at Erie, during the late war. Black Rock was chosen as the place of construction, and ship carpenters and joiners were sent there by Stuart, McQueen and Brown, arriving in November.[2] The keel was laid early in 1818, at the old Black Rock shipyard at the mouth of Scajaquada Creek opposite Squaw Island in the Niagara River.[3] It was remarked by the *Niagara Journal* that the boat would be completed by 1 June 1818. Forty-six men were employed on the construction of the hull, among them being Benjamin Bedwill and David Davidson, ship carpenters of Black Rock, and Pearsall B. Powell. The superintendent was Peter Lounsbury, master-builder. Captain Asa Standart assisted in the mold loft in getting out the patterns.[4]

The engine was built in New York by Robert McQueen, machinist and engine builder, and was moved to Albany by Hudson River sloop, thence across the state to Black Rock by wagon drawn by oxen over roads little more than Indian trails. In the meantime, George McPherson and twenty

[1] See H. A. Musham, 'Early Great-Lakes Steamboats—The *Ontario* and the *Frontenac*,' THE AMERICAN NEPTUNE, III (1943), 333-344.

[1a] Stuart it is said intended to run the boat between Buffalo and the foot of the rapids in the Maumee River, where he and a Mr. McIntyre had purchased a tract of land upon which they laid out a town named 'Orleans of the North,' which was to be the metropolis of the northeast. The steamboat when in service could not get over the bars in the river between the proposed metropolis and Lake Erie but did get as far as Swan Creek, now Toledo, and there it stuck. The project was then abandoned. Clark, Wagonner, *History of Toledo and Lucas County Ohio,* (New York and Toledo: Munsell and Company, 1888), p. 435.

[2] Robert W. Bingham, *The Cradle of the Queen City, A History of Buffalo to the Incorporation of the City* (Buffalo: Buffalo Historical Society, 1931), p. 360.

[3] Now near the foot of Auburn Street, Black Rock.

[4] Henry H. Hurlbut, *The* Walk-in-the-Water, *The First Steamboat on Lake Erie* (Chicago, 1890), p. 6.

men were making the boiler at Black Rock. Among them was Henry Daw, the local blacksmith.[5] On 8 May, the *Detroit Gazette* printed an extract from a letter of J. B. Stuart, one of the proprietors;

> The boat progresses rapidly. We have forty six men at work on the vessel and twenty on machinery; and I confidently anticipate the pleasure of going on her to Detroit, early in June.

The construction did not proceed as Mr. Stuart expected, but the hull was launched on 28 May, the *Niagara Patriot* reporting the event as follows:

> On Thursday last [28 May], according to previous arrangement, was launched the elegant steamboat at Black Rock, built by Mr. Brown of New York, who is one of the proprietors. She left the stocks[5a] a few minutes before one, and moved in a fine style without accident, amid the exclamations of the numerous spectators, who were highly gratified with the novelty of the scene.

She was named *Walk-in-the-Water* after a prominent chief of the Wyandottes. His tribal name was Mier,[6] meaning 'The Turtle,' or 'The Walk-in-the-Water.' It was expected that she would go into service early in July, but while the fitting was carried on with energy, it was not until the middle of August she was ready for her trials. Her dimensions were:[7]

[5] Daw gave a lecture on the *Walk-in-the-Water* before the Buffalo Historical Society in 1864. Bingham, op. cit., p. 360.

[5a] Sideways.

[6] Mier lived in an Indian village near Trenton, below Detroit. In the War of 1812, he sided with the British as they offered him more than the Americans. He served with them in the Detroit campaign and it is said, as a captain of Marines on the *Queen Charlotte* in the Battle of Lake Erie. When the *Niagara* bore down on her, he jumped overboard and swam ashore. He deserted the British with forty braves and offered his services to Major General William Henry Harrison, who had told him to keep out of the way. He was a party to the Indian Treaty of Brownstown, in November 1808, and to that of Spring Wells in September 1815. Some described him as fine looking, well-proportioned and straight as an arrow, with a mild deportment, others as a dirty old Indian. He died in the latter part of 1817, or early in 1818.

[7] Bingham, op. cit., p. 361, James Van Cleve, *Reminiscences of Early Sailing Vessels and Steamboats on Lake Ontario, History of the Introduction of the Propeller on the Lakes, and Other Subjects with Illustrations*, Manuscript in Chicago Historical Society, p. 180. *History of the Great Lakes, Illustrated* (Chicago: J. H. Beers, 1899), I, 593.

Captain Van Cleve, whose *Reminiscences* have been utilized in the preparation of this article, drew the sketch of *Walk-in-the-Water* which is reproduced as Plate 3, and gave the following account of the circumstances under which it was made: 'The original sketch of the external appearance of the steamer was made by Captain Jas Van Cleve in March 1882 during an interesting interview with Captain Levi Allen who was for some time one of her crew and was on board of her when she was wrecked on the sands off Buffalo in 1821. This opportunity to secure a good portrait of the Pioneer Steamer by having so good a witness to give directions as to her peculiar build and external appearance was very gratifying. As the sketch progressed he would correct errors of the pencil and suggest peculiar lines in her build, rig, etc. until the sketch was finished when he pronounced it a very correct picture of the old *Walk-in-the-Water*. We then joined in a glass to the memory of the Pioneer Steamer and her sad fate on the sands off Buffalo—November 1st 1821.'

Length on keel,	135.0 feet
Length on Deck, about,	145.0 "
Breadth, over guards,	32.0 "
Depth of hold,	8.67 "
Depth, molded,	10.0 "
Draft, about,	6.5 "
Tonnage,[8]	338.

Captain Van Cleve[9] describes her as follows:

She was about 145 feet long on deck, 10 feet depth of hold, 27 feet beam measuring about 240 tons, square engine, old fashioned coupling boxes[10] on shafts, one smoke pipe, two masts and bowsprit with three fore and aft sails, one stern boat, two quarter boats, hemp cables. There was a break in her deck of 3½ feet, giving her a high quarter deck, extending from near the after gangway to the stern, thus securing sufficient height for the cabin and a pleasant quarter deck promenade. The light into the cabin was obtained through skylights and stern windows. The steering wheel was at the stern near the flag staff.

The boiler was of copper and is said to have been 24 feet long and 9 feet in diameter. It had one kidney flue and burned wood, well-seasoned pine and hemlock split fine being preferred. The engine was of the low pressure cross-head or square type, with a single cylinder, 40 inches in diameter and a 4-foot stroke, delivering 73 horse power.[11] It was described as a curious arrangement of levers with as many cogs as a grist-mill. The motion of the piston was imparted to the paddle-wheels by a train of gears turned by connecting rods on the sides of an A frame, working from a vertically moving cross-head. The A frame projected above the paddle boxes. The paddle-wheels were 16 feet in diameter.[12]

The main cabin was directly below the quarter-deck. Its after part was partitioned off for ladies. The fore part was for baggage and lodging for gentlemen. The mainmast ran down through this part which was octagonal in shape and set with mirrors.[13] The accommodations were fitted up particularly for families moving to Ohio and Michigan.

[8] Old United States rule for single-deck vessels.

$$\text{Tonnage} = \frac{(L - 6B)\ B \times D}{95}$$

L - length on keel
B - breadth molded
D - depth of hold

[9] Op. cit., p. 180.

[10] Couplings between the shafts of the paddle-wheels and the main shaft, permitting either wheel to be cut in or out.

[11] John H. Morrison, *History of American Steam Navigation* (New York, 1903), p. 366.

[12] *History of the Great Lakes, Illustrated*, I, 399-400.

[13] Hurlbut, op. cit., p. 13.

Steam whistles had not then been invented. In place thereof, she carried a four-pounder cannon on wheels, at the bow. This was to be fired as a warning and to announce departures from and arrivals at ports.[14] The total cost was about $50,000.00, including fees to the Livingston-Fulton monopoly.[15] Her first commander was Captain Job Fish of New York. He was not a navigator but had been one of Fulton's engineers, and had been brought to Lake Erie because of his experience on the Hudson River steamboats. The sailing master was John Davis, and the engineer, James Calhoun, both also from the Hudson. The steward was one Newlands.

She was enrolled at Black Rock in the District of Buffalo Creek on 22 August 1818, and it remained her home port during her entire career. The route was to be Black Rock, ports along the American shore to Detroit and return. Voyages were to be made to ports beyond as circumstances directed.

Ready for service and under a full head of steam and with paddles chunking, she started for Lake Erie, but could not stem the two and a half miles of rapids in the Niagara River between Black Rock and Buffalo.[16] After trying for several days, she anchored off the warehouse of Sill, Sheldon and Company, and resort was had to Captain Sheldon Thompson's 'horn breeze', much to the chagrin of Captain Fish. Horn breeze was the local term for the several yoke of oxen used to tow boats up the rapids. Thompson put twelve yoke to a line six hundred feet long, put it on board, cracked his long blacksnake whip, and with smoke pouring from the stack and engine turning over, she was slowly moved up to the head of the rapids. Casting off the tow-line, she steamed on and came to anchor off Buffalo Creek.[17]

The news of her construction had been spread far and wide, and the people along the route were eager to see her. At Cleveland they were considering the employment of Captain Butler to open the bar across the mouth of the Cuyohoga River to admit vessels of burthen, and to allure her to make that thriving place one of the points of stopping. As for Detroit, on 14 August, the *Gazette* there stated:

> *Walk-in-the-Water*—The Lyceum (a literary association of this city) have appointed a committee to meet the elegant steamboat of this appropriate name, expected to shortly arrive at this city, and to report on her tonnage, construction, accomodation, the particulars of her first voyage, etc. The committee will be accompanied by such

[14] Ibid., p. 13.

[15] Ibid., p. 10.

[16] The current here runs up to five miles and hour, and probably more, depending upon the level of Lake Erie and the wind.

[17] Bingham, op. cit., p. 362.

members, citizens and gentlemen of the British side of the Straight as choose to go down on the occasion. The steamboat will come to at Walk-in-the-Water Street, off Roby's Wharf. This celebrated chief is but recently deceased, and must have been unconscious of the double honor about to be conferred upon him. The *Walk-in-the-Water* is 13 horsepower above the *Livingston*[18] and is supposed to be finest steamboat in America, and in the world, excepting that recently launched at New York, and destined to cross the Atlantic.

Again on 21 August, it remarked:

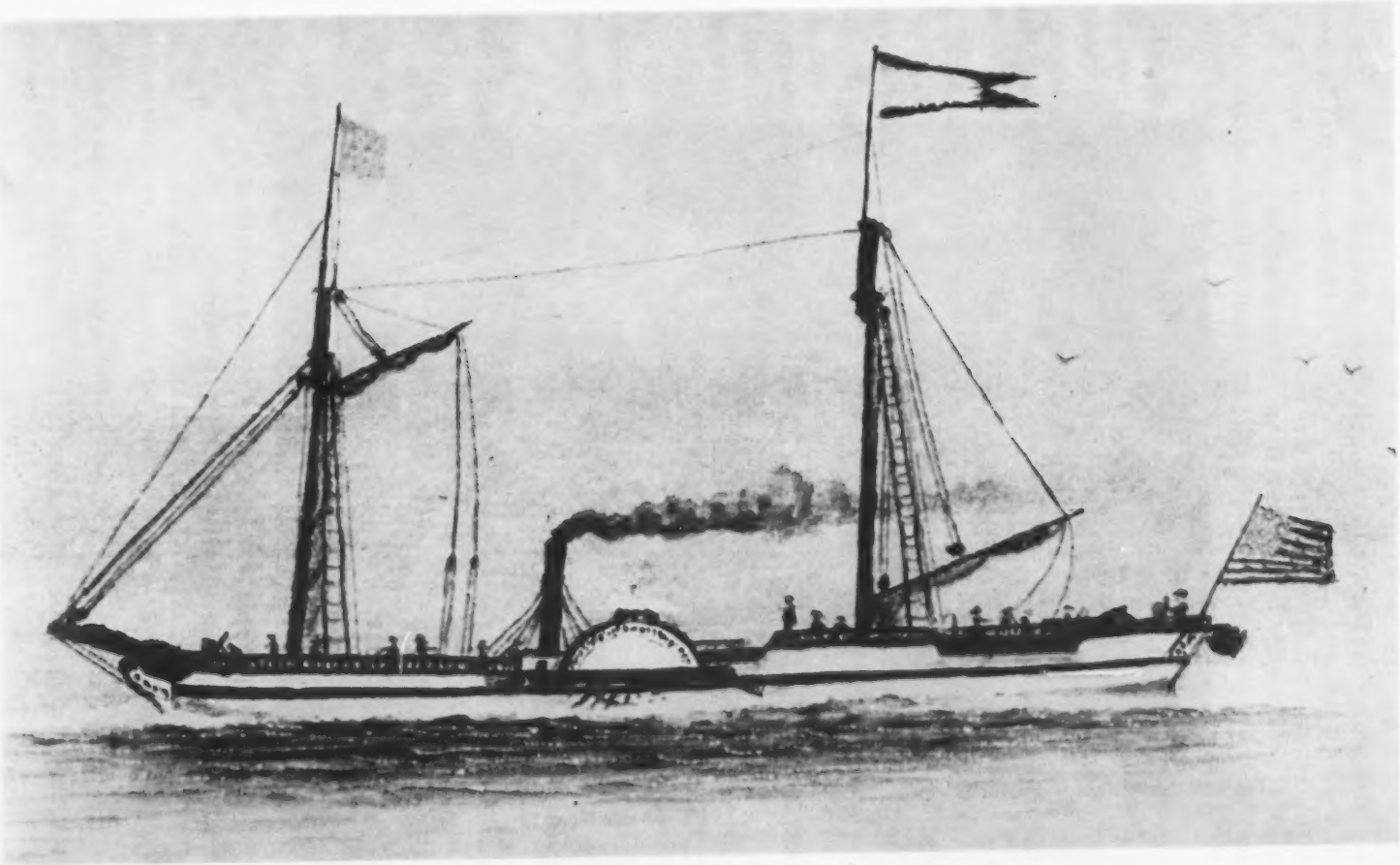
Expectation having been on tiptoe for more than a week, looking out for the steamboat, *Walk-in-the-Water*, has quietly sat down to rest itself, consoled in the reflection that during the late gale at Buffalo, the boat did not walk on the land.

The first departure for Detroit was made from Buffalo at 1.30 P.M., Sunday 23 August, carrying mail and twenty-nine passengers. The fare out and that back to Black Rock is believed to have been $20.00. She reached Dunkirk at 6.25 P.M., the same day, leaving soon after for Erie, and Captain Fish reduced steam so as not to pass it during the night. Arriving the next morning, she took on wood. During the day, everybody there visited her. In moving about the harbor she grounded a short distance west of French Street. Released and with no damage done, she left at 7.30 P.M. for points west. The next morning the people along the shore at Euclid saw her making rapid progress westward with a dark cloud of smoke pouring from the smoke pipe, which trailed its gloomy length far astern. They watched it until it turned into the harbor of Cleveland, and returned to their labor. Many doubtless knew what made her move but some shook their heads in sad surmise as to whether some evil powers were not at work in producing such a strange phenomenon as that on the bosom of their beloved Lake Erie.[19] Meanwhile, the citizens of Cleveland saw her approaching and all five hundred of them hastened to the shore. She was greeted with cheers and salvos of artillery. All day long the crowd inspected her expressing their wonderment and satisfaction at her visit. She left at 6:30 P.M. the same day and reached Sandusky Bay at 1:00 A.M., where she anchored for the remainder of the night. During the day, she dropped down the bay to Venice for wood, and left for Detroit at 3:00 P.M. Reaching the mouth of the Detroit River, during the night she anchored again and at daylight started for the city. Her progress against the current was a triumph. *Niles Weekly Register*, reported it on 3 October as follows:

Nothing could excel the surprise of the sons of the forest who lined the banks as they saw her moving majestically and rapidly against a strong current without the

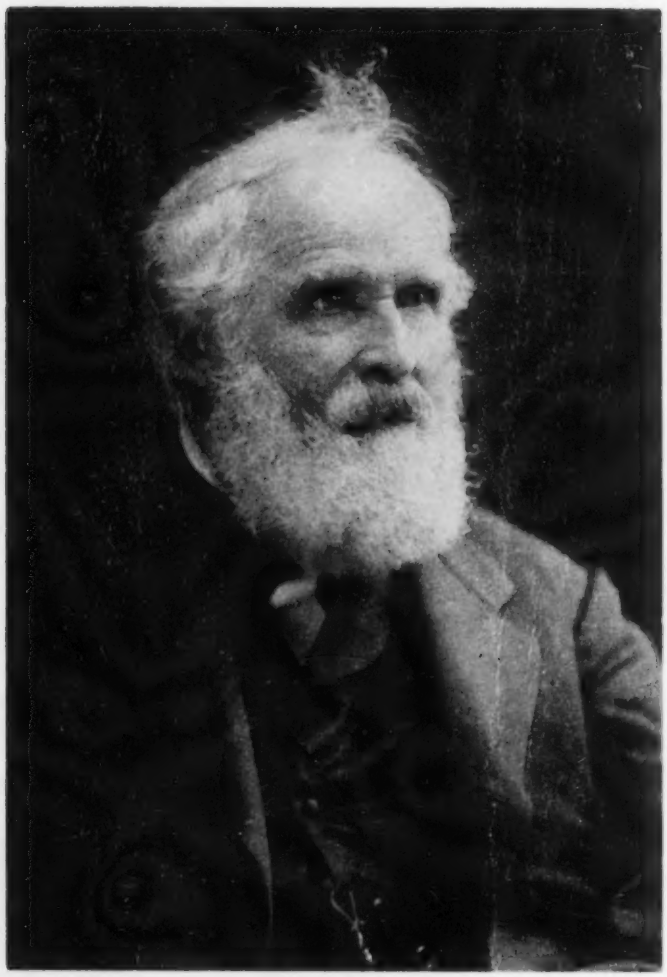
[18] The *Livingston* had 60 horsepower.

[19] *History of the Great Lakes, Illustrated*, I, 594.



Steamboat *Walk-in-the-Water*

Painted by Captain James Van Cleve. Reproduced by permission of the Chicago Historical Society. The hull was painted white with two black stripes and a gray water line. The rail was green and there was a green stripe around the paddle boxes under which was the name. The boats were red with brown underbody. The paddle wheels were red. The smoke pipe black. The stem and transom were ornamented with gold scrolls.



Captain James Van Cleve (1808-1888)
Great Lakes Mariner and Artist
Reproduced by permission of the Chicago Historical Society

assistance of sails or oars. Lining the banks above Molden they expressed their astonishment by repeated shouts of 'Tai-yoh-niches', an exclamation of surprise. A report had been circulated among them that a 'big canoe' would soon come from the noisy waters[20] sent by the Great Father of the Che-mo-ko-mons, (long knives or Yankees) would be drawn through the lakes and rivers by sturgeons. They were thoroughly convinced of the truth of the report.

The French habitants wondered at what the Yankees had sent among them, some taking her to be a saw-mill. She was cheered by hundreds as she passed Roby's wharf to come to, not there, as advertised, but at Wing's instead sometime between 10:30 and 11:00 A.M., 27 August.[21] The delighted people clambered aboard marvelling at all they saw. Indians boarded her as well, and looked over everything but when Engineer Calhoun blew off steam these braves frightened by such magic, went over the side and disappeared from sight.[22] At the end of this first visit she made an excursion to Lake St. Clair with a party of ladies and gentlemen, returning to Detroit to leave for Black Rock. The time for the trip out was forty-four hours and ten minutes, a creditable performance. The best speed was reported as seven and a half miles[23] a hour. About forty cords of wood were burned.

The second departure from Black Rock was made early in September. Thirty-one passengers were carried, among them the Earl of Selkirk, Lady Selkirk and two children; Colonel Robert Dixon, British agent for the Indians of the far Northwest; Colonel Anderson, United States Army, wife and wife's sister; Colonel Leavenworth, United States Army, wife and daughter; Colonel James Watson, Washington City; and Major Abraham Edwards.[24] On the arrival at Detroit on 7 September, Lord Selkirk, while standing on the deck and talking to a gentleman, was arrested by the Honorable Austin Wing, United States Marshal, for crimes against the Hudson's Bay Company twenty years before, invoking a suit for damages and illegal imprisonment.[25]

Having proven herself, she was put on a regular schedule of one round trip to Detroit per week. To notify all that were within hearing that she was ready to leave Black Rock and other ports the gun was fired one half-hour before departure. On approaching port it was also fired when one

[20] Lake Erie.

[21] Hurlbut, op. cit., pp. 9-10.

[22] William Hodge, *Papers Concerning Early Navigation on the Great Lakes,* (Buffalo: Buffalo Historical Society, 1883), p. 33.

[23] Reported as knots, but probably miles is correct.

[24] *History of the Great Lakes, Illustrated,* I, 594.

[25] The case was later decided in favor of Lord Selkirk, by Judge Augustus Woodward of Michigan Territory. Hurlbut, op. cit., p. 14.

mile distant to announce her arrival. On hearing it everyone rushed down to see her come to or to dock. This gun later rolled overboard in a storm.[26]

The fares to ports along Lake Erie were as follows:

BLACK ROCK AND BUFFALO TO:	CABIN	STEERAGE
Dunkirk	$ 3.00	$ 1.50
Grand River	10.00	4.00
Cleveland	12.00	5.00
Sandusky Bay	15.00	5.50
Detroit	18.00	7.00

Waiters (servants), half the price of cabin passengers.

Meals were included. She was well found in food, and had a bar well stocked with liquors and wines.[27] The freight consisted of produce, apples, cider, fish and local products between ports. Going to Detroit were army supplies and goods for the settlements and the fur trade, while coming east were furs and other products of the wilderness.

At Black Rock, Sheldon Thompson built a dock and a freight-house for her and his horn breeze was used regularly as a means of getting her out of Niagara River. There being no safe natural or improved harbors along the lake, passengers' baggage and freight were transferred to and from the shore in yawls and flatboats. Buffalo was a port of call this first season, she coming to opposite the mouth of the creek there to take on and debark passengers.

On the third trip one hundred fifty passengers and considerable freight were carried. On 14 September, an excursion was run to Point Abino on the Canadian shore ten miles west of Black Rock, with a numerous party on board. Accidents occurred from time to time. On 27 October, *Niles Weekly Register* reported:

> A Lake Erie steamboat in entering the harbor of Erie, Pa., on the 27th, ult. drew under her wheel a boat from a public vessel, which imprudently attempted to board her forward of her works. It is not mentioned that any lives were lost. The steamboat while efforts were making to save small boat and crew, was drifted on the bar where she remained two days.

Seven round trips were made this first season, the last departure from Black Rock being on 7 November. Returning she was laid up for the winter in Scajaquada Creek.

[26] Hodge, op. cit., pp. 30-31.
[27] Ibid., p. 33.

This first three months of service showed that this pioneer steamer successful in some respects, was lacking in others. She had proven that steamboats could safely navigate open waters and this on the stormiest of lakes, but she was hard to handle especially when leaving and making port. Due to the low power of the engine and her shallow draft, a light inshore breeze hampered departures. Docking at Black Rock and Detroit was a trial due to the current in the river at both places and the difficulty in handling the engine. The projecting paddle boxes added to the trouble. Coming in she would hit the dock with a bang, often overrun it or fail to come up to it. Long poles were carried on deck and used as on Durham boats to move her up or down to the dock. When docking the master stood on either paddle box and gave orders through a speaking trumpet in true nautical style. She was not a comfortable boat in a sea being quite a roller. Regardless of these shortcomings she had maintained a service with a real degree of reliability. The people along the lake were proud of her and held her in affection. Being the only steamer on the lake, they soon discarded the long cumbersome name and referred to her simply as 'The Steamboat.'

It is said that Captain Fish was not altogether at home in his command. Used to the smooth water of the Hudson rough weather made him uneasy.[28] Mate Davis preyed on his fears by telling him tall tales of the lake storms. Steward Newlands appears to have been an objectionable sort of person. According to reports he had a dandified coxcomb sort of manner and used many Cockney expressions when dealing with the farmers around Black Rock for produce, much to their disgust. Now there was a farmer's daughter, a fine blooming lass, to whom Newlands was paying attention. The farmer surprised them one night, and not approving of his method of courtship threw him out of the house, booting him through the door. He disappeared from the countryside and troubled it and the steamboat no more. He was replaced by one Truman Taylor whose services were apparently satisfactory.[29]

During the winter she was thoroughly overhauled and preparations made for the next season. In the following spring (1819), the local papers carried the following:

> Notice—Sealed proposals will be received by Harry Thompson for supplying 600 cords of basswood for the *Walk-in-the-Water*, the wood to be delivered on the river bank adjoining the steamboat wharf. Payment will be made, one fourth on the delivery of the wood, the remainder on the first day of May next.

[28] Rough weather on the Great Lakes will upset the saltiest of old shell backs.

[29] Hodge, op. cit., pp. 29-30.

She left Black Rock for Detroit on 29 April 1819, on the first trip of the season with one hundred fifty passengers. Departure for the second trip was on 3 May, and for the third on 11 May, and this time again with a long list of passengers. On this trip while Mr. Anson Goodman, of Paris, New York, was talking with Mr. R. B. Heacock of Buffalo, the rail of the forward gangway, against which he was leaning, gave way and he fell overboard, went under the wheel and was lost. The body was not found. He was twenty-two years old.[30]

On 18 May, she left Black Rock on one of her fastest round trips, making it in five days. Some time during the month, the *New York Mercantile Advertiser* announced:

> The swift steamboat *Walk-in-the-Water* is intended to make a voyage from Buffalo on Lake Erie, to Michilimackinac, on Lake Huron, for the conveyance of company. The trip has so near a resemblance to the famous Argonautic expedition in the heroic ages of Greece that expectation is quite alive on the subject. Many of our most distinguished citizens are said to have already engaged their passage for this splendid adventure.

This trip was to be made for the American Fur Company.

Leaving Black Rock with one hundred passengers on 24 May, on the fifth trip of the season, she was delayed for a few days off Cleveland by a severe gale which prevented the landing of passengers.[31] This is probably the occasion that decided Captain Fish to leave the lake. It was said that during that storm he turned over the command to Mate Davis who brought her safely into port. Captain Fish was not the best master for business reasons. On a previous trip of the year, he refused to take on board on approaching Buffalo, a party that had come out in a yawl to take passage telling it through his speaking trumpet, 'You know full well, gentlemen, that Black Rock is the port of sailing of this steamer.'[32] It was probably after this storm that Davis became master.

On the trip to the far west, *Niles Weekly Register* for 26 June, reported:

> The steamboat, *Walk-in-the-Water,* left Buffalo on Saturday the 12th inst.[32a] on her first trip to Michilimackinac with nearly 100 passengers, and a great freight valued at 200,000 dollars. It was expected that she would return to Buffalo before the 29th. Among the passengers was Major General Brown and suite and several other officers of the army.

[30] Hurlbut, op. cit., p. 16.
[31] Ibid., pp. 16-17.
[32] Bingham, op. cit., p. 363.
[32a] The date was the eleventh.

It further observed at the same time:

> It is contemplated to build a wharf or pier at Buffalo, 1,000 feet long, which it is supposed will make a good and convenient harbor.

On this trip a detachment of United States troops for the western posts and supplies were also carried. Arriving at Detroit on 13 June, she went on across Lake St. Clair, up the St. Clair River stemming the rapid current into Lake Huron and on to Mackinac Island, from which she returned to Black Rock on the twenty-sixth. She thus was the first steamboat to navigate Lake Huron. On the twenty-ninth of the same month the schedule was set for a departure for Detroit every Saturday, wind and weather permitting.[33] On 20 August, the local papers carried a notice for the stockholders to meet at Skinner's Mansion House, Albany, for the purpose of organizing a company.[34]

Reports were now circulated that she was unseaworthy and unsafe. Eleven of her passengers hearing of them published a card denying them and commending the captain, the engineer and the crew for the care with which they handled her.[35] It is probable that a Captain Sherman who commanded sometime during her career was in charge at this time. He also came from the Hudson as did Captain Rogers who took over command in September. The schedule was changed on 21 October to a trip every ten days. On 1 October, she arrived at Detroit with one hundred thirty recruits for the army. The last trip was made the first week in November, after which she was again laid up in the creek and during the winter was overhauled once more and repaired, and reported as the equal of any boat in the state.

Eighteen hundred and twenty was a banner year for this steamboat. On 16 March the Lake Erie Steamboat Company was incorporated with Asa H. Curtis, President, and J. J. Ostrander, Treasurer. There were two hundred and eighty shares of stock, valued at $200.00 each, held by Noah Brown, Robert McQueen and Samuel McCord of New York, associated with Pratt and Durant, Davis and Company and John Mead of Albany. The enrollment for this year further shows Mary A. Gillespie and Elizabeth H. Post also as part owners.[36]

The season was advertised to open with boat leaving on 1 May, on her first trip to Detroit. The fares were reduced, probably to meet the compe-

[33] Hurlbut, op. cit., p. 17.
[34] Ibid., p. 17.
[35] Ibid., p. 18.
[36] Ibid., p. 21. *History of the Great Lakes, Illustrated,* I, 599.

tition of low fares offered by the numerous schooners and sloops, being:[37]

From	Black	Rock	to	Erie	$ 5.00
"	"	"	"	Grand River	7.00
"	"	"	"	Cleveland	10.00
"	"	"	"	Sandusky	13.00
"	"	"	"	Detroit	15.00

Backward weather and ice in the lakes forced a postponement of the departure to 6 May. One of the passengers was Henry Rowe Schoolcraft, geologist, on his way to Detroit to join the United States exploratory expedition to Lake Superior and the Upper Mississippi country, under the command of Governor Lewis Cass of Michigan Territory. He reported on the *Walk-in-the-Water* as follows:[38]

> On the sixth I embarked on board the Steam-Boat which left Black Rock at nine in the morning and reached Detroit on the eighth, at twelve at night. We were favored with fair weather and a part of the time with a fair wind. The Boat is large uniting in its construction a great deal of strength, convenience and elegance, and is propelled by a powerful and well cast engine, on the Fultonian plan, and one of the best pieces of workmanship of the original foundry. The accomodations of the boat are all that could be wished, and nothing occurred to interrupt the delight which a passage at this season affords. The distance is computed at 300 miles; the time that we employed in the voyage was sixty-two hours, which gives an average rate of travelling of five miles per hour. The first two miles after leaving Black Rock, a very heavy rapid is encountered, in ascending which the assistance of oxen is required.

On 10 May, on the return to Black Rock, a passenger, William Painter, jumped overboard and was drowned: he was no doubt deranged, so the report says.[39] After a few regular trips she left Black Rock and Buffalo on 10 June, on the first trip of the year to Mackinac. Among the passengers were Major General A. Macomb, Inspector General John E. Wool, Post Surgeon William Beaumont, all of the Army ,and Ramsay Crooks, Agent for the American Fur Company. At Mackinac they and several other passengers signed a testimonial commending the ship, its officers and service, which the *Detroit Gazette* printed on 17 June. She returned to Black Rock on 27 June. She left on a second trip to Mackinac on 10 July. Among the passengers for Detroit were Major General Winfield Scott and three colonels on their way to try a fourth, Colonel J. L. Smith. In August a

[37] *History of the Great Lakes, Illustrated*, I, 186. Bingham, op. cit., p. 365.

[38] Henry R. Schoolcraft. *Narrative Journal of Travels through the Northwestern Regions of the United States, extending from Detroit through the Great Chain of American Lakes to the Sources of the Mississippi River, in the Year 1820* (Albany, 1821), pp. 33, 47-48.

[39] Hurlbut, op. cit., p. 20.

third trip was made to Mackinac for the American Fur Company from which she returned with six hundred and ninety packs of furs.[40] For the remainder of the season she ran on her regular route. That fall, according to *Niles Weekly Register* for 4 November, Lakes Erie and Ontario were much vexed with storms and several vessels were wrecked but the steamboat withstood this war of the elements uninjured. When the season closed she was again laid up in Scajaquada Creek.

The season of 1821 opened with the first departure for Detroit on 21 May, after which she made regular trips. On the Fourth of July she was in Detroit and was run on an excursion. The day was extremely fine and the quarter-deck prepared for dancing by Captain Rogers, was occupied by several parties. The Declaration was read, a good dinner spread, etc., after which she returned to the city.[41]

On Saturday, 28 July, she left Black Rock for Mackinac with two hundred passengers and a large cargo. On board were Colonels Pinckney, McNeill and House; Majors Baker, Larrabee, Watson and Cass; Lieutenants Baker, Morris, Chambers, Tufts and Pomeroy and five companies of United States troops for Mackinac and Green Bay. Also on board were the Reverend Eleazer Williams,[42] Indian missionary, with some half dozen Oneida Indians bound for Green Bay to look over lands there, suitable for a reservation. With him also was A. J. Ellis who in later years recalled the trip as follows:[43]

> The new steamboat, *Walk-in-the-Water*, built by capitalists from Albany, and after North River models, commanded by Captain Rogers, lay at the wharf at Black Rock. We took passage on her for Detroit. She was furnished with what the engineer called a 'powerful low pressure engine,' but she could not, with all her power, stem the rapids, and go out into the lake, but had to be towed out by nine yoke of oxen, going along the beach, at the end of a line of six hundred feet, which was cast off as soon as the steamer had got out of the rapids into the lake. This boat had great length, with but little breadth, was very slender. . . . . She, however, took us safely to Detroit—in fact, made the tour of the lakes to Mackinaw, the Sault and Green Bay and returning during the calms of summer, to the great delight of the master and crew.

Ellis was taken sick at Mackinac, remained there while she went on to Green Bay, and returned in her to Black Rock. On this trip to Green Bay, she became the first steamer to navigate on Lake Michigan. Her last arrival at Detroit was on 25 October 1821.

[40] Ibid., p. 22.

[41] Ibid., p. 26.

[42] He later claimed to be the lost Dauphin of France.

[43] Colonel Ebenezer Childs, 'Recollections of Wisconsin Since 1820. General Ellis' Recollections,' *Wisconsin Historical Collections*, VII, 210-211, 214.

On Wednesday, 31 October, she left Black Rock shortly after 4:00 P.M. for Detroit. This was the last departure of her career. Captain Rogers was in command with William T. Miller as sailing master, and James Calhoun was at the engine. She carried a valuable cargo and eighteen passengers among them being the Reverend Alanson Welton and family, Messrs. John Hudson, F. Martin, George Throop, and Mr. and Mrs. Thomas Palmer. The weather was rainy but not threatening. After leaving port the dead-lights, walnut shutters two inches thick, were put in the transom ports. At about 8.00 P.M., when about twenty miles west of Buffalo, she was struck by a heavy squall. The dishes crashed to the deck and the furniture was thrown about by the shock. The storm continued and increased in violence, and as the ship could not make headway against it, Captain Rogers put her about and headed back to Black Rock. Believing that he could not safely make the harbor, he decided, when a short distance west of Buffalo, to drop his anchors and ride out the storm. The wind blew like a hurricane as the night wore on. Straining at the cables, the waves washed over her and tossed her about. She pitched, heaved and rolled in a frightful way. The timbers creaked and groaned in the most alarming manner. The siding of the cabin opened and shut as she tried to adjust herself to the twisting, wracking and bending strains. The planking worked loose and water poured in through the seams. The steam pump could not make headway over the rising water and the male passengers were put to the hand pumps. Nevertheless by morning there was four feet of water in the hold and it sloshed about ankle deep in the cabin. It was a night of terror for all the frightened women screaming and crying at the prospect of being lost.

Towards morning she dragged the anchors. Rogers believing she could not last until daylight and fearing she would either founder or break up under their feet, decided to cut her loose in the hope that she would be drifted ashore. The cables were cut and she fell off into the trough of the sea. As she rose and fell with the waves the wind drove her landward. At 5.00 A.M. she was lifted by a large wave and thrown on the beach, not 'wan arpent from de shore,' but almost on the shore itself, about one hundred rods below the old Buffalo lighthouse.[44] She hit the beach with a crash that broke the keel in two or three places and shattered the hull. Engineer Calhoun jumped into the water and waded ashore. Securing a horse at a neighboring house, he rode to Buffalo for assistance. The people were roused and hastened to aid. The passengers

[44] Now the foot of Main Street, Buffalo.

and crew were quickly removed in the boats and finding shelter in the quarters of the light keeper dried themselves around his fireplace. It had been a terrible night and they, all very grateful at having been saved, united in a testimonial commending Captain Rogers with the crew, particularly Engineer Calhoun. Judge Lucius Storrs was also praised for his efforts in the rescue.

When the storm subsided and the high water receded *Walk-in-the-Water* was high and dry on the beach. The hull was a complete wreck but the engine was not much damaged.[45] The disaster caused much excitement locally. Black Rock was shocked and Buffalo expressed its regrets. People in Detroit deplored it as one of the greatest misfortunes that could have happened to Michigan for in addition to its having deprived them of all certain and speedy communication with the civilized world, it was feared it would greatly check the progress of immigration and improvement. *Niles Weekly Register* remarked on 17 November:

> The loss of the boat will be severely felt on account of the great faculty she afforded to travellers and for the transport of goods.

The reasons for the loss of the steamer are not hard to find. First there was the low power of the engine. This could not have been helped. While it was not the largest made to that date, it was as large or larger than in most steamboats of her size. Then there was the structural weakness and flexibility of the hull due to the break in the main deck to secure sufficient head room in the main cabin and last, the lack of safe harbor at Buffalo. With the weather what it was on the night of 31 October and the early morning of 1 November its loss was to be expected. It was the price of pioneering.

It has been stated that the *Walk-in-the-Water* was not a commercial success, as but one dividend was paid in the three years of her existence. This is probably true but it was apparently overlooked when this statement was made that the company had enough money on hand promptly to order another hull for a steamboat to replace her in the following season.

The *Walk-in-the-Water* is commonly credited with being the first steamboat on the Great Lakes. This is not so. She was not the first but the fifth and maybe the sixth, being preceded by the *Ontario, Frontenac, Sophia, Charlotte,* and possibly the *Maria.* It is argued these steamers navigated Lake Ontario only. This is true, but if such an argument be admitted then neither could she have been the first, as she did not steam on Lake Su-

[45] Bingham, op. cit., pp. 365-367. Hodge, op. cit., p. 37. *History of the Great Lakes, Illustrated,* I, 600-603.

perior or Ontario. Carrying such reasoning to a logical conclusion, navigation of all the Lakes is requisite to a claim for priority. In such case the honor of being the first steamboat on the Great Lakes belongs probably to one of the first propellers, mayhap the *Independence,* built at Chicago in 1842, which steamed around them for three years before being portaged around the Sault in 1845 to become the first steamboat on Lake Superior. This reduces such an argument to an absurdity. The *Walk-in-the-Water* however was the first steamboat to navigate Lakes Erie, Huron and Michigan and so the case rests.

The Ship Martha's *Shopping Trip in the Mediterranean in 1801*

BY JAMES DUNCAN PHILLIPS

THE question is often raised how the old merchants of New England ever transacted the extensive business they did all over the world without telegraphs, mails, banks or even any recent news of what was going on in other parts of the world. There is only one answer —extreme daring on the part of the merchants and great ability, fidelity and honesty on the part of their captains. Ventures which would have been utter failures had the captains been bound by specific instructions were made extremely successful by intelligent captains who had the daring to assume responsibility and the wisdom not to be reckless. All this does not appear in any printed record. It requires a careful study of voyage after voyage before one is impressed with the very great ability of these captains, most of them very youthful, whom the merchants sent out. Unlike the modern merchant shipmaster, they were not simply seamen able to bring their ships to port. They certainly had to be all of that, but they were also traders, diplomats, bankers and fighters.

The voyage of the ship *Martha*[1] in 1800 and 1801 is an admirable example of all of this and therefore it is perhaps worthwhile to trace her manœuvres in some detail. She was, for her time, a large ship; 105 feet long, 27 feet broad and 13½ deep and rated at 340 tons. She was the last ship but one—the *Mount Vernon*—built for Elias Hasket Derby, and was built by Enos Briggs at his yard a little west of Union Street in South Salem on land now covered by the Pequot Mills.[1a] She was begun in January

[1] There is a log book in the Essex Institute with a label on the shelf-back reading Brig Diana | Jamaica 1790 | Ship Martha | Smyrna 1800 | Brig Hannah | Nevis 1801 | which unfortunately has been used for a scrap-book of clippings from newspapers and so therefore largely unusable which is the log of this voyage. In the middle of the book however there is a sort of summary of the voyage with the dates of entering and leaving every port which traces the whole voyage. The Pickman Papers, Vol. V, Ship Papers, at the Essex Institute contain most of the letters about the voyage but there are other letters and accounts which have been used in Derby Mss, Vol. XVI, Letters 1798-1800 and Derby Mss., Vol. XXIV, Ship's Papers. Almost none of these manuscript volumes have page numbers so the volumes have to be searched.

[1a] William Leavitt 'Materials for a History of Ship Building in Salem,' *Essex Institute Historical Collections*, VI (1864), 172; VII (1865), 208.

1796 and launched in June.[2] During that same week three vessels were launched in Salem[3] and in the course of the year 1796 there were six[4] but none exceeded 185 tons except the *Martha*. Those who are interested in rigging may like to know that her mainmast was 64 feet, her main-topmast 40 feet and her main-topgallant mast 22 feet and 12 feet head. All the other dimensions of her rigging are also recorded.[5] Few men knew better how a ship should be built than Mr. Derby and his captains, and Enos Briggs was his favorite builder, so it may be assumed that she was as good a vessel as could be produced in that day. Unfortunately there does not seem to be any picture of her in existence.

Mr. Derby only lived a year or two after the *Martha* was built. She did not therefore sail many voyages for him, and in February 1800, was registered in the name of new owners, all executors, or heirs, under his will, to whom she had been sold for $15,000.[6] These were John Derby, Benjamin Pickman, Ezekiel H. Derby, Richard Derby and Nathaniel West.[7] John Prince, Jr. succeeded George Ropes as master. John Derby and Benjamin Pickman, probably the managing owners for the voyage about to be described, were among the most able merchants of Salem. John Derby had been one of the moving spirits in the famous voyage of the *Columbia* when she visited Oregon. All the owners of the *Martha* were experienced ship-owners and merchants who knew as much about trading conditions the world over as any in America. None could have planned the voyage better.

They placed on board of her for the account of all five owners[8]

325 Boxes of Havanna Brown Sugar		13,494.15
488 " " White "		25,625.58
13 " " " "		692.
13 " " Brown "		523.87
1970 Bags of Coffee net 196987 lbs.		
Viz: 14 Leagers of Coffee		
12 Hogsheads of Coffee		46,226.67
		86,562.27

[2] List of vessels built by Enos Briggs prepared by his grandson, E. T. Briggs; see Putnam, *Salem Vessels and their voyages*, IV, 82.

[3] *The Diary of William Bentley, D.D., Pastor of the East Church, Salem, Massachusetts* (Salem: Essex Institute, 1905-1914), II, 187.

[4] *Essex Institute Historical Collections*, VI (1864), 139, 172; VII (1865), 208.

[5] *Essex Institute Historical Collections*, VI (1864), 277.

[6] Bill of Sale, Pickman Papers, Vol. V.

[7] S. W. Phillips and A. F. Hitchings, *Ship Registers of the District of Salem and Beverly, Massachusetts, 1789-1900* (Salem: Essex Institute, 1906), p. 115.

[8] Pickman Papers, V, 18, Ship Papers.

This may not have been the entire cargo, but was probably the most important part of it. The sugar may never have been unloaded from the last voyage, for the *Martha* had sailed for Havana in October 1799 and returned early in January 1800.[9]

The coffee probably came from the far East, as vessels were constantly arriving, and in fact the *Martha* herself had come in from the Isle of France in June 1798 with a huge cargo of coffee and sugar.[10] It can be seen from all this that Salem was not merely a port of entry for merchandise to be used in the country, but was a trading center for goods coming and going to all parts of the world. The ship, fittings and cargo stood the owners $97,623.50 when she sailed and ventures must be added to this.

The *Martha* cleared for Gibraltar and India on 18 February 1800. This seems a queer combination of ports, but it must be remembered that our naval war with France was barely over and the possible ports for our vessels were not as numerous as if we were at peace, so the merchants had to do what they could. The *Martha* was a heavily armed ship and the captain was obviously not supposed to let any privateer of equal size and strength interfere with his peaceful progress.

The wage schedule of the ship was interesting. Captain Prince received $12 a month but, as will be seen in his letter of instructions, he got various other commissions which were far more valuable. The first mate got $25 a month and two and one-half tons privilege and the second mate $22 a month and one and one-half tons privilege. Ordinary seamen got $18 and six cwt privilege. The privilege meant the officers and men could use that amount of cargo space throughout the voyage without charge, and if skilfully used it might net them a very tidy sum, in fact, far more than their wages. The actual total cash wage bill was $348 a month for twenty officers and men. The ship herself was appraised at $15,000 for insurance purposes.[11]

Perhaps the best way to describe what Captain Prince was supposed to do is to quote in full his letter of instructions and see how far he had to deviate therefrom.[12]

Capt. John Prince, Salem, 17 Feb'y, 1800.

Dear Sir:—

The Ship *Martha* of which you are Master being ready for sea, we would have you get under weigh as soon as possible to proceed directly for Gibraltar. If after your arrival at Gib. you should find that you can sell your cargo there at a reasonable profit, say

[9] *Salem Gazette*, 15 October 1799, 2 January 1800.

[10] Custom House Impost Book.

[11] Pickman Papers, Vol. V, Ship Papers.

[12] Pickman Papers, Vol. V, Ship Papers.

so as to net one hundred thousand dollars and can obtain therefor Dollars or unquestionable Bills on London at par you will dispose of it unless you should receive good information that the articles of your cargo are in great demand within the Streights. If you sell at Gib for Dollars, you will proceed to Canton, but if you sell for Bills you will go for Lisbon and negotiate your bills for dollars and from thence for Canton. If after your arrival you shall find that your cargo will not sell at Gibraltar you will then endeavour to obtain the best information possible regarding the markets within the Streights and elsewhere, and you have our permission to proceed whencever you may think your cargo will sell to the greater profit. If you go up the Streights, we do not know of any articles that you can procure for a return cargo upon which you can promise yourself any profit. The best we think you can do is to enable us to realize *here* the amount of your sales *there*. Perhaps therefore the best you will be able to do will be to ballast the ship with *Salt* or *Brandy* and bring home the chief of your stock in specie. With regard to *Brandy* if the difficulty between this country and France should not be adjusted and you should be able to obtain it as low as it was bought last year or if it should be very scarce and on that account higher, we think you may venture to bring a cargo of it, but if the intercourse between this country and France should be renewed it will be best not to bring any and on this circumstance also will depend the propriety of your purchasing any Soap or Oil for if our trade with France should be renewed we shall import considerable quantities of these articles from thence. If you should be obliged to proceed up the Streights many circumstances may occur to render it necessary that you should have discretionary orders. We do therefore explicitly authorize you to dispose of your cargo at such place and in such manner and proceed with the ship as you shàll think will be most for the interest of the concern'd. You will not go to Canton unless you can get out of the Streights by the first of August, 1800, and in case no accommedation should take place with France, it will be best to proceed thither[13] by way of New Holland. On your arrival at Canton you will endeavor to ascertain what articles were exported to this country this season and what the season you are there and will regulate your purchases accordingly. If you should be able to obtain an advantageous freight for America, it may be best to vest your own stock wholly in Nankins and some few silks and silk handkerchiefs and a few chests of tea of the first qualities, after purchasing some China there for ballast. If you should load the ship wholly on our account, perhaps the following articles and in the following proportions will answer.

One quarter in Bohea Tea of the best quality:
One eight in Congo and Souchong Teas of the best qualities.
One quarter in Hyson and a few chests of Gunpowder Tea of the first qualitys.
Three-eights in Nankins and a few silks and silk handkerchiefs exclusive of what you may lay out in China Ware, of which we would recommend your bringing chiefly table sets and three of a better quality than common, that is of a *deeper* blue. If you should find by the prices that we quote below that Teas will pay a better profit than Nankins you will increase the former and decrease the latter and if the Nankins will answer best you will increase the quantity of them and decrease the quantity of teas, and whereas Capt. Prince is owner of one-twentieth part of the cargo now on board the Ship *Martha* it is fully agreed between him and the subscribers that if he

[13] I.e. to Canton.

should proceed to Canton he is to be entitled at the return of said ship to one tenth of the cargo she may bring home and all the profits arrising from passengers, from freight or in any other way, to be considered as a part of the cargo and this to be in lieu of commissions, and if Capt. Prince should not proceed around the Cape of Good Hope but should dispose of his cargo in Europe and return home from there, he is to have eight per cent of the stock he may bring home excepting he should proceed to any port or ports to the eastward of Naples in which case he is to receive nine per cent of the Stock brought home.

If you should find you are too late for your Canton voyage and can learn that the intercourse between this country and France is renewed, perhaps it would be well to go to some French port and load a cargo for the Isle of France. If you think proper you may undertake it, but in this case it would be well to take only as much stock as would make a certainty of loading the ship with coffee and the surplus stock to send home to us in Dollars or remit to Sam'l Williams, Esq. American Consul at London. If you remit any property to London through Amsterdam you will direct it to Messrs. Van Staphorst & Co. and if through Hamburg to Messrs. Rucker & Wortman or Mr. P. Pitcairn, American Consul. You will be carefull to write us by every opportunity. If any accident should befal Capt. Prince, Mr. Downing and Mr. Hazen will jointly undertake the charge of the interest and will exert their best abilities to carry the foregoing into effect. If however such accident should take place before the ship leaves Europe they will not proceed on the Canton voyage but return directly to America.

We wish you a pleasant and prosperous voyage

Remain your friends
JOHN DERBY
BENJAMIN PICKMAN

Salem, 17 Feb'y, 1800

I acknowledge the above and foregoing to be a true copy of orders received from the owners of the ship *Martha*, myself Master, bound for Gibraltar and India and which I engage to follow.

[Signed] JOHN PRINCE, JR.

Price Current.

Bohea Tea	25 cts	clear of duty
Souchong	75 to 80	
Hyson	100 to 105	
Gunpowder	120 to 125	
Nankins	95 cents	

Silks from 90 to 100 per cent advance if good colour
Silk Handerchiefs 100 per cent advance.

In spite of rather a rough passage Captain Prince anchored in the harbor of Gibraltar only twenty-eight days after leaving Salem. The distance is about 3100 miles, so he made pretty good time. Nevertheless his letter from Gibraltar which follows tells vividly the difficulties he was confronted by. The Captain Gardner he refers to is Richard Gardner, master and half-owner of the new ship *Hazard* which left Salem the same day

Captain Prince did.[14] Captain Putnam in the brig has not been identified, but a Captain Thomas Putnam commanded the ship *Rising States*. Captain Freeman was master of a Boston ship which reached home 26 April and brought the letter.[15] Hasket was Elias Hasket Derby, Jr. then on his famous cruise around the Mediterranean in the ship *Mount Vernon*. Benjamin Crowninshield commanded the new ship *Prudent* of Salem which belonged to Nathaniel West, Ebenezer Bickford and Clifford Crowninshield, a group entirely distinct from the famous partnership of G. Crowninshield and Sons and more closely allied to the group which owned the *Martha*. The old Derby brig *Cruger* of which John Barton was master, Captain Prince knew his owners would be interested in, as she was now owned by John and Richard Derby. She had sailed for Leghorn in November, 1799.[16] As a matter of fact she was perfectly safe, joined the *Mount Vernon* at Naples and after a long and tedious voyage reached Salem 30 July 1800.[17] The mention of all these ships in the Mediterranean indicate the great activity of Salem merchants there but these were only the vessel of the Derby connections. The letter[18] follows:

Gibraltar, 16 March, 1800.

The Owners of the Ship *Martha*, Gentlemen:

I am happy in informing you of my safe arrival at this place yesterday morn'g after a very blustering passage. The ship was very deep and made considerable water or should have been here 3 or 4 days sooner. Gardner arrived the morn'g before me. Capt. Putnam in the Brig not yet in.

I saw the land of Spartel at 3 A.M. and pushed on with a fresh breeze in hopes of passing the pirates before daylight, and as it was very rainy and haizy, effected it, and anchor'd here at 7 A.M. Capt. Gardner was chased by a Latteener of 10 guns and 173 men the day before, off Tangier.

I have seen Mr. Elmslie who gives me no encouragement as my cargo is so very large and the markets above are quite full. He is to make inquiry and I am to know this mor'g if anything can be effected. Capt. Freeman arrived this day from Leghorn. Left it 12 days since. Hasket was to sail next day for Naples, was doing very well indeed. You will doubtless have letters from him by this conveyance. There is a letter from him for Mr. Elmslie. The information it contains shall know this morn'g. Capt. Freeman went to Leghorn to collect dollars for India but could not effect it. He now returns with Soap, Oil, etc. etc. He sold his cargo of Coffee and Sugar together at p 28 pr 100 Leghorn pounds of Coffee and Sugar 151 [?] same [?] and when he sailed it was selling in the same manner at 33 pr. As his passage is so short and not many vessels have gone up very lately he thinks it probable it will not fall again very

[14] *Salem Gazette*, 18 February 1800.

[15] *Salem Gazette*, 29 April 1800.

[16] *Salem Gazette*, 8 November 1799.

[17] *Salem Gazette*, 1 August 1800. See also letters reprinted in R. E. Peabody, *Merchant Venturers of Old Salem*, pp. 146-147.

[18] Pickman Papers, Vol. V, Ship Papers.

soon. There are two ships here bound up I believe to Leghorn but their cargoes are small in comparison to mine. However I shall not go up if it is possible to do anything here even at your limit. Bills of Exchange are procured at Leghorn on very good terms and are in abundance say 53 Ster'g Pr. P [?]. I cannot obtain any other information of the markets in any other port in the Med'n. Genoa is blockaded both by sea and by land. It is expected to fall very soon if not already, when goods at Leghorn will again rise. Capt. B. Crowninshield sailed from Leghorn for Messina and I am informed sold his cargo very well, but it is a small place and would not answer for us. If I go from this and can obtain no further information, shall go first to Leghorn where I can obtain it if anywhere.

Gibraltar is under state of blockade by order of the Spanish Government and any vessels bound in or out are subject to capture and condemnation by them. It is also reported that the French cruzers have orders not to molest neutral vessels, especially Americans and that the French Consuls in foreign parts have no right to condemn any vessels. The above if true is favourable. If I proceed think I shall land sufficient here to give me more room below for my people and on deck for my guns. We have now barely room to work any of them, none in the waste. All the leake in the ship is above the copper. I have no doubt of its being in the seams. Shall examine when I discharge if I can make it convenient. If I proceed to India it will not be necessary till I get there as it must be out of water when light. My crew are all well and in good spirits. Have behaved very well for the number. The officers I am quite satisfied with.

I have made every inquiry and have not been able to obtain any information of Capt. Barton. He has not been here or at Leghorn. Sincerely hope he is safe. Indeed there are many places he might be at. Do not know anything about him here. 18th March: After making every exertion, I have at last had an offer for my cargo, but such as I could not with propriety accept, say $16 for Sugar and 25 for Coffee, payable in Bills which at Lisbon are at 5/5 pr [?] & half in paper at 17 per ct. loss.

I am now going to proceed up and think from what information I can collect and the low price my cargo was laid at it must answer at any port. The price has been high at Smyrna but 4 or 5 vessels have gone up. I am undetermined till I get a list [?] and find how the winds may be whether I go first to Leghorn or Naples. Shall get to Genoa if I can. The markets are 40 per cent higher than at Leghorn.

Capt. Freeman can give you more information than I can write now, as I find a 20 gun ship sails this even'g which I intend proceeding with. He has promised to see me past Malaga and I hope to keep up with him. He has dispatches or would wait for me. A Charleston arm'd ship & small cargo also joins so that we have nothing I think to fear.

I have landed 10 hhds of bread and all my spare spars and empty water casks to give me some room. I find that on further inquiry, Barton was at Naples doing well which I was very happy to hear. Not having to add but remembrance etc. etc. to all my good friends, I am with esteem, etc.

[signed] JOHN PRINCE, JR.

Desire the ladys to make out their invoices for London as should I go to Smyrna or the Adriatic, it is most probably I may go there and Hasket I am informed has all the pretty things of Italy on board.

The *Martha* reached Naples 2 April in time for Captain Prince to have an interview with his cousin, E. H. Derby, Jr., of the *Mount Vernon,* and on the basis of that conversation he decided that Leghorn presented the best chance for his cargo. They considered Trieste, but letters received indicated the arrival of vessels with sugar and coffee there, so rejected the idea.[19]

Captain Prince's letters from Leghorn describe fully his difficulties there. Captains Meek and Smith were respectively commanders of William Gray's ship *Lucia* and snow *Phoenix.* Both of these vessels cleared from Salem for Alicante 26 July 1799, and had been trading around the Mediterranean for six or eight months. They sailed in company through the Straits of Gibraltar and the *Lucia* towed the *Phoenix* which was much slower. A French privateer attacked them. The *Lucia* cast off the tow and started after him. The privateer fired two shots but the *Lucia* fired fifty before the Frenchman finally escaped.[20] The *Lucia* reached Salem, 26 July and the *Phoenix* on 2 August.

The question of the surrender of Genoa was a far more important issue than Captain Prince dreamed of. After a most obstinate defence by the French it barely capitulated to the Austrians on 4 June before Napoleon, who had crossed the Alps, defeated them in the battle of Marengo on 14 June and drove them completely out of northwestern Italy.

Leghorn, 13 April, 1800.

Gentlemen:—

I am now to inform you of my arrival at this port from Naples the 9th inst., in 5 days, from which place I wrote you by Capt. E. H. Derby who was to sail in two days and which letter hope you may soon receive. The information I rec'd from him induced my coming here. I have as yet done nothing. Tomorrow morning I am to have Protique and if the ship should be detained till another day hope to give some better information of the markets than I now can. Several arrivals have taken place since Hasket was here and I doubt whether 30 p wou'd be obtain'd for Sugar and Coffee together. Genoa is expected to fall hourly. I shall not hurry thru' my sales here on that account without I can obtain 30 ps or upwards for my cargo. Sound bills are not as plenty as they have been & are at 52—There are letters in town of a late date from Smyrna (Mr. Jenkins of Newbury Port). He has just arrived and was informed Coffe and Sugar 40 & 41 p of this place & this mar't. I have not yet determined what house to deal with in this place. They are all urgent. I shall go on the plan proposed by Cousin Hasket. Please inform him I do not like the countenance of Mr. Jouen sufficient to trust myself in his hands. If I sell here, think it probable I may take in sufficient to put the ship in good trim of Red Wines, some Brandy, Soap, Oil, etc. and if I get information of our Consul in France adjusting their business (of which from late acct there is every prospect) shall proceed in the voyage pro-

[19] Prince to Owners of Ship *Martha,* 3 April 1800, Pickman Papers, Vol. V, Ship Papers.

[20] *Salem Gazette,* 29 July 1800.

posed & collect sufficient dollars for that purpose at Gibraltar, but it is impossible for me to determine on anything until I get on shore. The several vessels here are to sail shortly for America, by all of them I shall write. Meek and Smith sail in 2 or 3 days for Barcelona for return cargoes. All the ports in France in the Med'n are declared blockaded by Lord Keith which would prevent our going there.

14th April: I got on shore this morn'g and conversed with some merchants and others and on the whole, have concluded to land a small quantity of Sugar and Coffee as a sample and see what it will fetch. Without a few samples, no offer will be made. I have seen several letters from Smyrna which are not very encouraging, and I fear Genoa will not fall in time to be of service to us.

I shall put my affairs in Webb's hands. On the whole I prefer him to any other house. I believe him to be an honest man and tho' he may not obtain a higher price for a cargo, he will not make so many deductions & gratuities as other houses here have done. If I find I am likely to be detained long, I shall make a short trip to Tunis or elsewhere for wheat but of that cannot at present determine. Shall strip and new sheath the bends where I believe our leak to be. I have examined part of the hold and find the cargo so far in good order.

Not having to add but hope to have an opportunity in a few days when shall give you more pleasing information (I hope). Make my best respects, regards, etc. etc. & believe me

Yours truly
[signed] JOHN PRINCE, JR.

Leghorn, 15th April, 1800

Gentlemen:

I wrote you the 13th and 14th inst. via Philadelphia and Charleston of my arrival here, etc. This is by Capt. Meek who goes to Barcelona and it will be some time before you receive it. But as he is bound to Salem, cannot let him go without a line.

I obtained protick 2 days past. I have determined what business I do here is by Webb & Co. and as nothing can be done without fair samples, I landed 20 boxes of Sugar, 60 Bags and 6 hhds Coffee. There being nothing but Holy days untill day after tomorrow, no business of any consequence is done here especially among the Jewish merchants who are the principal purchasers here. My Sugars now sell I am told readily without the Coffee but I must sell them together. I am not in haste for a few days as we are in hourly expectation of the fall of Genoa when I would immediately sail for that market.

There are very great qtys of Sugar at this place and great expectations from England and Lisbon, but I hope not very soon. The prices quoted for Sugars 30 ps to 35 according to assortment and quality and Coffee at 28 ps but I hope to obtain more. I am starting some bags of Coffee which were considerably damaged and I hope shall not find a great qty of it. The Sugars appear to be in good order.

Please inform Cousin Hasket that the Sugars from Lisbon by the Polacre at Naples sold at 41 and 60 Ducats and also that I rec'd his note from Naples. The Bills of Messrs. Dupony on Lisbon they will not sell on the present exch. Untill I can dispose of the cargo it is impossible to determine on anything, and as two or three Captains sail for America next week, I hope by that time something favourable will have taken place to inform you of.

The Small Pox raging here. I have four men innoculated and I hope they will have it favourably.

Not having to add believe me to be

Yours truly

[signed] JOHN PRINCE, JR.

On the ships mentioned in the following letter, the *Prudent* has already been mentioned, Captain James Very commanded the schooner *Harriot* of only 68 tons, owned by Jonathan Mason, Henry Prince and Samuel Archer but Henry Prince was no relative of the captain of the *Martha*. The *Harriot* had left Salem 11 April direct for Leghorn. Captain Stuart has not been accounted for unless he was of the brig *Three Friends* recently at the Isle of France. The *Rising States* was a Salem ship belonging to William Gray.

The comments on the political and military situation are interesting and show what difficulties our merchants had to contend with. There are several more letters from Leghorn between 30 May and 27 June but they all discuss the same old problem of exchanging soap and oil for sugar and coffe and at what rate.

Leghorn, 30th May, 1800.

The Owners of the Ship *Martha*:

Gentlemen:

I have written you many letters since my arrival here to which refer. This goes by an unarmed Clump Brig for New York and at this season of the year I think she will be very forunate if she gets clear of the Med'n.

My cargo is as yet unsold. The only offer I have been able to obtain is 28 ps payable 2/3 in the produce of the country and 1/3 at 2 and 3 months. I had determined a few days since to go to Smyrna and had taken out all my brown Sugar for that purpose, but just as I was ready for sea, information came of the plague having made its appearance and was raging severely which precluded my going there.

We have been hourly in expectation of Genoa's surrendering which would give a start here to business. Capt. Stuart is here from Trieste. His sugars sold there very low, indeed there is no market in the Med'n would answer for our cargo better than this. They are now bombarding Genoa and the successes of the Austrians have been such in Piedmont as to cut off any reinforcements that might come to their relief, that it is not expected they can hold but a few days; the successes on the Rhine have also been great. We do not obtain any intelligence from our Consul in France, but think they will not be able to effect anything good from so unsettled a Government.

It is not profitable to obtain a sale for my cargo in the present situation of affairs without taking a return cargo. I have offered to take one of the value of 40 to 50,000 ps & the balance Cash or Bills but cannot bring them to these terms. Their great object is to get rid of Soap & Oil of which very great qtys are gone to America and silks I do not think can answer. If I am obliged to agree to the above terms, must purchase a vessel very much against my inclination.

The Wheat business is done over. There are immense qtys on hand. As many as

20 English vessels are here for ps and not able to obtain any. Business of all kinds very dull. Bills on London still continue at 53½ prp including the agio of 7 per cent.

Capt. Very arrived here five days past by whom I was very highly gratified in receiving 5 lines from Cousin John and a letter from my Sister. Was very happy in hear'g my good friends were all well. Think by this time Cousin Hasket will be with you.

The *Prudent* was to sail from Messina about 10 or 12 days past. Could I sell for cash or bills think I should go down to Spain for Brandy. Very's cargo of Sugar is very unsuitable for this market. Do not think when it sells it will bring more than 17 or 18 pr, at least Muscovadoes sell at that price.

I shall have some opp'ty of writing you next week when I hope to have it in my power to give you more pleasing information of our prospects. Be assured that I have done and shall continue to do what I think best calculated for your interest. One thing I determined upon which is to sell the cargo and settle all business before I leave the country. I shall take a few more men for the better security of the property.

My crew are all well. I am putting on new sheathing on the bends and down to the copper. Find the sheathing very much eaten and the seams very open, more so than I expected. Not having to add but most affect't regards to all my friends, believe me to be yours in truth

[signed] JOHN PRINCE, JR.

N. B. A ship is now beating in which I take to be the *Rising States* from Tunis. She has been long expected.

Owners of Ship *Martha*. Leghorn, June 27, 1800.

Gentlemen:

I wrote you a few days past by Capt. Stuart since when have not been able to effect anything. Our information respecting Buonaparte's and the other French armies being beaten was not true but the reverse.[21] The armies had a most severe engagement, the Austrians so much cut up as to be obliged to agree to a cessation of Arms and deliver up Genoa with all its territory, Piedmont and many other places. The cessation is to continue till they hear from Vienna and for ten days after (if the Court of Vienna do not agree to it). They will overrun all Italy again. There not being the smallest probability of doing anything at present and the letters by the last post from Smyrna being very encouraging in consequence of the French having again taken up arms in Egypt from whence they expected large supplys of Coffee and the account of the Plague being less than they have had for many years, has induced my taking my cargo on board again and proceed for that place. Shall be ready to sail in two days, and shall stop at Messina or Palermo as the wind may best suit in hopes of selling my brown Sugars, which if I cannot effect immediately on reasonable terms, I will take with me to Smyrna. They will sell there but at a very inferior price in comparison with white. The letters from thence are to the 2d of May when white Sugars were selling for 110 ptt at 140 the 45 Okes or 125 Eng. & Cape Coffee P 420 at 450 p the 100 Okes or abt 275 D and the Exchange on London p 13 or 13½ per pound stlg. Should we be so fortunate as to obtain anything near the above prices we shou'd still make a good voyage which sincerely hope may be the case to repay us

[21] The battle of Marengo.

for our great detention at this place. Had I gone on from Naples shou'd have done very well but the accts from thence of the 8 April respecting the plague were so alarming as to deter me from going. It is never known there after the first of June, the warm weather destroys it. I am writing to London, Hamburg and to Bourdeaux to obtain information of the markets for Smyrna produce. I am inclined to believe a French port will be a better market than any other, as they have been so long shut up from the [?] trade; the crops of cotton etc. are coming in in Sept'r. Hope I shall not be obliged to remain a long time at Smyrna. The cargoes are sold chiefly by small qtys and I shall hurry it off as fast as possible lest more should arrive. Think I shall do my business there with the house of Lee & Sons who are very highly recommended. There are several cargoes here in the same situation as myself, none of them can go to Smyrna. The ship I mentioned from Philadelphia is going to Palermo with part of her cargo but will I think be obliged to return here. There has been but one sale since my arrival and that but a small one. The people are quite discouraged, and untill a peace takes place, little or nothing will be done here. The French have a small army within 30 miles of this place.

I hope the having landed part of my cargo will not effect the insurance as none of it has been sold. I only landed sufficient to strip off the sheathing. The risque from this up I take to be very little. I have taken a Pilot, I am informed a very *good* one, and we are informed French cruizers have orders not to molest American vessels. There are none out of Corsica that I fear. I will not be boarded by them least they shou'd not have rec'd information from France to the above purport.

29th: Not being able to get any bills of health yesterday on acct of the settlement of the Convoy Duty, I shall not be able to sail until tomorrow midday. The *Philadelphia* of 12 guns and 30 men keeps Co as far as I please on her way to Palermo. We have a report of two Frigates and 4 Corvettes gone to Malta. Shou'd we meet them we do not apprehend they wou'd molest us. There's nothing else our two ships together need fear. We cannot get any late information of our Consul but observe by the London papers some ships having been boarded in the channel and permitted to pass. Our charges here are enormous. The Dutys and other charges the same as if the Cargo had been sold, except Consul. Have only sold of good and damag'd Coffee abt 1900 p, which will not pay by near 2000 p. Shall settle it I hope without drawing on you. Even my Nankeens I am obliged to leave here not being able to sell without sacrificing them.

I have just heard [?] Jaume has two vessels to sail tomorrow for New York and Charleston with Soap and Oil, for which purpose and others he had hired large sums at even 4 or 5 per cent per month. He must have better information than any other person to encourage him in such speculation. From the immense qtys of those articles that have been sent there, I think he must lose considerably.

The blockade is taken off Genoa but that place is in such a situation that no business can be done there at present.

I inclose you a Smyrna price curr't tho' not a late one, you will form some judgement of the articles for that market. The prices are nearly the same as the 2d May. I also inclose you a certificate for all the Adventures bro't in the Ship. They have all been given away here, some Coffee at 25 p English Qtt.

30th June: We are just going on board. The wind is ahead but shall go out and look for a fair one. The ball'ce of my acct with Messrs. Holmes & Co. I shall remit

from Smyrna. A report is just now in circulation that the French will be here in a few days. If so, we shall be happily out of the way.

Not having to add but best regards, etc, etc., I am

Yours truly,

[signed] JOHN PRINCE, JR.

Hope it will not be long after you receive this that you will hear from me at Smyrna.

After leaving Leghorn he decided to touch at Messina and reached there about 8 July. He got rid of some three hundred boxes of sugar there and proceeded on his way to Smyrna where he arrived 25 July.

Mr. Williams and Mr. Pitcairn were the American consuls in London and Hamburg and also apparently acted as agents for many of the merchants. Letters from both of them about the voyage will follow.

Captain Phillips was not Captain Stephen Phillips of Salem, who apparently never went to London, and was at this moment just back in Salem after a voyage to Calcutta. Captain Forrester was a rich merchant of Salem, though how a bill of exchange on him happened to be in Leghorn is not clear. Probably some captain of his had used it to purchase supplies.

Smyrna, 2d Oct. 1800.

Owners of the *Martha*,

Gentlemen:—

I wrote you on the 2nd Sept'r of our having disposed or sacrificed a part of our cargo, since when we have sold the remainder of the Coffee for cash (to pay duties and other charges, buy Opium, etc.), say about 11 or 12,000 Okes from 315 to 305 ps. Six hhds still on hand. plenty being for sale at these prices. We did not think it would do to hold back lest we should fare still worse.

I before informed you of a bargain of Sugars for Goat's wool. Since have also bartered about 50 boxes at 110 ps for 200 bales Madder Roots at 41 pr & about 25 boxes at 115 pr for about 20 bales Mohair Yamsay [?] 1600 Okes of 2¾ lbs at 6½ pr. Have also for cash 2000 Cheques of Opium at 7⅜ pr which I expect will hould out upwards of 1½ $ in America. This market is lower than for many years owing to the abundant crop. Large quantities are and have been shipped to England whence it is *sent* to *China*. If so, it will answer our purposes; otherwise I shall have too much for America. Some of the above bartered sugars have since been sold for cash at 80 pts so you may easily conceive the panic the people here have been in expecting peace but I have been quite relieved on that head for 2 days past we received information by 2 or 3 channels of the armistice being broke and that hostilities were to commence on the 10th, and also that Leghorn was garrisoned by the English, which as soon as it is confirmed by the Post (a week hence) we hope will give some stir to the sales of Sugar, etc. Carpets as yet we have not been able to procure. Some are expected from the country daily when I hope to get 10 or 12 bales. The price will be high but I think they will answer. Fear I shall not be able to procure the exact dimention'd ones for Mr. West.

My cargo is all landed and the ship ballasted for taking in. I hope to have the Madder this week, but the cottons not till after the 15th by which time I hope the news of the war will have reduced the price which is now very high.

I inclose you the certificates for the landing of the cargo, which with those sent you from Leghorn and Messina make the whole. We are about two boxes short of white Sugar. Cannot account for it in any way without the mistake arose at the Havana we have been as particular as possible. I wish we had been able to ballast the ship with fruit, but she is too sharp, it would have half filled her. I have however purchased 5 or 6 tons of different sort by way of samples. It is very fine, I think, the raisins preferable to Malaga.

I received letters of Mr. Williams and Mr. Pitcairn. they say our envoys had not (1st of Aug'st) finished the treaty but the American unarmed ships would pass unmolested. Since then by the English papers we find that a treaty could not be effected at present and am fearfull not in time for a market for our cargo. I hope to hear from Mr. W. soon respecting the probability of getting into England from this country and I am just informed that the Levant Company after receiving Capt. Phillips are determined not to admit any other foreigners without paying 25 per cent which they are entitled to by their charter which is a total prohibition. Therefore am at present in quite a state of suspense but it must be determined before I leave this. If I cannot go to England or France I shall be obliged to go to Leghorn where if I cannot dispose of it, I can perform quarantine and take it to Barcelona whence it is safely taken into France. I don't intend purchasing any other articles than those before mentioned if I can possibly avoid it as I have now, I believe, more than the ship can carry without I should be able to effect a barter for copper which will not at all incommode the stowage of other goods. Do not pretend to make any paper calculations of this voyage; it is impossible for me to do on the spot. The charges, etc. in and out are very high, if we save ourselves it is all I expect. An English vessel sails in a week and will call at Gib'r by which I shall write and inclose letters for more of my friends. The post tho' sure is a very tedious method of getting letters to you.

Whenever I sell my cargo I shall reserve the Carpets, Opium, 15 or 20 bales Goats Wool, Oil Stones & whatever Copper I may get, to bring to America, as I think they must answer, and the Fruit.

Yours etc.,

Smyrna, 7th Oct., 1800.

The preceding is a copy of a letter written by the last Post & which I now enclose to Mr. Elmslie of Gib'r by an English ship bound for London. Since writing the preceding, we have been informed of a longer continuance of the Armistice, but from every appearance, we think the war will still go on, which has prevented my sacrificing more since my last at the prices before mentioned. I inclose you a price curr't, I cannot pursu'de them that a peace on the Continent ought not and will not effect the prices of W.I. produce & with England there is not the least probability of one at present. We hope by the next Post to hear the war is going on as the price of cottons keeps us in expectation of peace. I have got in the chief of my Madders and have floored over the ballast with box wood at 11 tons. I expect by Sunday to receive 100 bales of cloth & begin stowing (which is a very tedious process). They are

now due but I would not order more than to keep us doing something, expecting a reduction in the price; indeed from the failure of the first crop 10 bales of new cottons have not yet been bro't to market. This crop will not be more than half the last.

From the accounts I receive from one of the London Captains, the 5 Brothers must have lost considerably by going there. (Mr. Williams as yet writes me nothing particular on the subject.) Pay'g 500 pounds stlg & [?] extra duty is very high besides the charge mentioned in my preceding letter. If I go (and at present I know of nothing better) if I can go to Genoa, my cargo there will answer very well. I have lately observed American ships return from Genoa to Leghorn by which I suppose the trade to be open to neutrals and it seems also the French respect our ships. I have procured a few carpets and hope in a few days more will arrive from the country, to make up my qtys. All the Sugars in port stand in to the owners upwards of p 100 so that I am in hopes they will not sacrifice them. None have been sold except by those who have not received theirs in barter. Was I to offer mine for cash on a short cr. I should not expect they would average above 60 or 65 p, and as to bartering for more goods I cannot think of it as I have now more than the ship can take and the copper I was in hopes of getting has been sold for cash.

I sent you a bill from Leghorn on Capt. Forrester, though till looking over my papers a few days past I had not sent a second. I now send it in case any accident has happened the first which when received you will be good enough to pay to Mr. Hersey Derby on my account. Mr. Hazen and all the crew are well. We shall, I expect, have a clear bill of health (at least vessels do now and this is not the season for plague to break out) which I hope will enable us to make but a short stay wherever I sell my cargo. I cannot fix upon a time for leaving this or where for with certainty but I hope to inform you before sailing to enable you to make insurance if you wish it. I shall not. I know of no danger in this part of the Med'n and you can better judge of the intentions of the French than I can. Believe me to be

Yours truly

[signed] JOHN PRINCE, JR.

Owners of Ship *Martha* Smyrna, 15 Nov. 1800.

Gentlemen:

I wrote you by post the 2d Oct. & duplicate thereof with lengthy additions the 17th by an English ship to be handed to the care of Mr. Elmslie at Gib'r (which you will receive in a short time as the ship had a fine time down) since when nothing material has taken place. The general opinion is now for peace tho' one with England is hardly expected. Cottons have risen very considerably lately, great demands are expected from Germany, tho' they are very low in England; We are getting them in slowly, the first were purchased at 79 p and have been rising gradually since last week at 93 p, this week they are limited to 88 p at which we hope to obtain some. They are purchased in the country, the manner etc. of doing it would fill a sheet of paper. Therefore for these particulars and many others of business in this country you must remain in the dark till my return. Since my last have not been able to do anything and much fear I shall be obliged to leave it here unsold. Two days since by the Frankfort Papers we observed that a convention was signed with our Consul at Paris the 10th October so that I now hope we shall pass unmolested without the

English (who according to the report by Capt. Parsons who arrived yesterday from Boston have captured many of our vessels and one sloop of War) should follow their example, of which you will be better judges than I can and govern your insurance accordingly. My present expectation is to call at Messina and from thence to Leghorn or if I think I can obtain a certainty of peace with France and no difficulty from the English I would proceed immediately at Marseilles, where from all accts the cottons etc. are in demand. There appears to be no difficulty in getting to Genoa but if possible I should prefer Marseilles, as Genoa gets supplied from Leghorn.

By letters from Mr. Williams I observe the remittance made by Mr. Broadbent which is directly contrary to my express orders, which were possative to remit in Bills on London & as he was agent for the garrison at Malta many Gov'nt Bills pass thro' his hands and in which he promised to make remittances. The Exchange being favourable was a great inducement to me to sell the sugars but as the bill to be negotiated to the best advantage presume he means on his own acct, at least I understand it so and shall in my settlement with him. From character and appearance I was much pleased with him as a man of business, I cou'd not have thought he would have done a thing of the kind. Hope the ballances have long ere this been rec'd as by my orders. We have at last procured the qyt of carpets I wanted say 3000 pikes [?] (¾ yd) 1st cost 102 paras. They are of good quality but in general small sizes, it is impossible to get large ones. I have also got upwards of three tons of Oil Stones said to be very good indeed. First cost abt 35 paras the Oke of 2¾. Those articles with abt 20 bales of goats wool assorted, the fruits and opium, will be the only articles I can find that I think may answer in America The trade of Egypt being shut up drugs of all sorts are dearer here than by my memorandum they are worth in America.

The sugars bro't by the sch'r will not, as the quantity is small, much effect the market without they force a sale when they must be sacrificed. The muslins if calculated for this country and laid in low may answer. Those kind of goods are sold at 6 to 8 months Cr. and if p'd in they are well satisfied. There are considerable qtys lately arrived from England and they import many from Germany.

I was very happy to hear of the safe arrival of Hasket of which Mr. Williams informed me, he having received letters as late as Aug'st, when doubtless all friends were well or he would have mentiond.

Hope when I get to Leghorn to find letters from Salem. I shall be much disappointed if I do not. I have sold one pair of guns and shall one or two more if I can find purchasers. We shall still have enough for our men. The officers and crew are all well, and I believe as tir'd of the voyage as myself. Not having to add but best regards, etc. etc.

I am yours truly
[signed] JOHN PRINCE, JR.

Captain Prince was a long time getting away from Smyrna as may be seen by the above letter of 15 November.[22] He finally got away about 30 December and planned to touch at Messina, Leghorn, Genoa and perhaps Marseilles according to the following letter. Apparently he had not

[22] Prince to Owners of *Martha*, Smyrna, 15 November 1800, Pickman Papers, Vol. V, Ship Papers.

yet been able to get rid of all his coffee and sugar and had to leave it in the hands of merchants at Smyrna and a lot more he had had to exchange for cotton which he could not carry away on the *Martha* and had to ship on another vessel. This appears in the letter from the agent in Hamburg as well as does a lot of other data about European trade.

Hamburg, 26 March, 1801.

Messrs. Derby, West and Pickman

Gentlemen:

I have none of your esteemed favours unanswered.

By a letter from Mr. John Prince, Jr. of the 26 Dec'r dated Smyrna—he was then ready to sail with a cargo of cottons, Madder Roots, Goats Wool, Opium, Mohair yarn carpets and fruit—for Messina, and thence to Leghorn, Genoa and possibly Marseilles. He had left a considerable part of his American cargo in the hands of Lee & Sons and George Perkins, Esq.—not being able to get any saving price for it—as also 160 bales of cotton of the outward more than he could stow. He had directed the remittance for these to be made to Mr. Williams in London thro' me. I have been this particular knowing the frequent miscarriage of letters and thinking the above might be for your satisfaction.

Our market has been brisk for some time on Sugars and after about three weeks dullness begin to receive for white Havana Sugars from 20 or 23, for browns from 14 or 15. These prices you will observe give for the first 171/2 dollars and for the 2d about 131/2 or 14.

Coffees do not neat so good a profit. Good ordinary 121/2 or 123/4, fine green 15, Java rather most in demand at 131/4 or 133/4. Buenos Ayres hides sell at 20.100 [?] Nankeens at 64, equal to 71 stg. Short Yellow [?] Fine cotton 72/100, Ordinary 42. Rice 50—equal to 65 stg. American rum 1 dollar per gallon. Whale Oyl 200 dollars per ton. Tobacco has not yet much advanced here, but it evidently grows scarce and I am confident in recommending it as a shipment of the fairest prospects. Dyewoods get also more into demand. Should importations from England cease, we may expect every article to rise. For more general information, I hand you a price current carefully corrected by actual sales.

Our proper exportations of German and Siberia [?] linens continue as last year, fully 10% under their peace price. Copper sheathing slips 28/100 [?] and glassware about 6 dollars per 100 [?].

Russia goods are wanting and when we may have supplies seems uncertain as the Emperor has prohibited all exportations.

We expect a Prusian detachment in the neighborhood of this place. This can operate no injury but to the English with whom they may be drawn into a war.

With great respect, Gentlemen
Your most obs
Jos. Pitcairn

London 30/2
Insurance—from the U. States
8% in Summer
10% in Winter

Captain Prince wrote on 4 January 1801 off Messina that if he found Leghorn and Genoa blockaded and Marseilles impossible, he should make for Barcelona. Apparently he proceeded direct to Barcelona for he wrote from there 3 February that he still hoped to reach Marseilles. He arrived there 11 February and must have spent a great deal of time waiting to get through quarentine and discharge cargo for the following letters from Samuel Williams, agent in London and a former Salem man, show him leaving Marseilles 29 July for Barcelona. Williams expected him to go directly home, but he must have stopped and been delayed at many ports waiting for convoys or for privateers to go away. It will be noted that Salem's own frigate *Essex* was doing duty on the Mediterranean station.

The Captain Joseph Ropes was of the ketch *John,* which reached Salem from St. Petersburg on 6 September 1801. The 'sound dues' were the tribute levied at Elsinore for passing through the sound out of the Baltic. The *Minerva,* Captain Barber, was not a Salem ship. The Salem ship of this name was then in the South Pacific and the schooner *Minerva* which was in Spain was commanded by Captain Hardy Phippen.

Orig. vs *Minerva* London, 19th August, 1801.
Dup. vs *Latona.*
Mr. John Derby, Dear Sir:

I enclose invoice and bill of lading of copper shipped on your acct and risk vs the *Minerva,* Capt. Barber, for Boston, & debit you £558.11. for the amount thereof.

You will observe that it is soft rolled and 26 oz. Your money would have been thrown away for such as you ordered. The Patent Cold Rolled is seldom used here, but seems to be in fashion in America.

Captain Prince may be at home before this reaches you. Lest he should not, I would inform you that he left Marseilles on the 29th ult. under convoy of the *Essex* Frigate for Barcelona with a fair wind. He wrote me on the 28th and remitted me a bill for £30 on acct. of his owners. He had just heard of the capture of the ship with his 180 bales of cotton on board by an English Cruizer. He had directed Dupony Brothers & Co. to abandon to the underwriters and to remit me the proceeds.

Your Capt. Joseph Ropes drew on me for his sound dues £46.17.0 on the 3d August to the owners debit.

Sugar and Coffee are very heavy and the prices going down. Owing to their dull sale, many of the W. I. Merchants are pushed and must sell at any price. Pepper has declined but the demand for it is in the fall and winter. American flour sold this week for 37/ pr bar'l. The harvest here will be abundant.

London, 4 Sept. 1801.

Mr. John Derby, Dear Sir;

The preceding is copy of my last and enclosed a dup'te of the invoice of copper shipped you by the *Minerva,* Capt. Barber, who sailed from the Downs on the 23d ult.

I received on the 28th ult. via Hamburg your and Mr. Pickman's letter of the 17th

July. I conclude of course that the *Henry,* Capt. Barton, was there, but I have no other intimation of her arrival.

Tomorrow 3 mails will be due from that side.

My friend Mr. Pitcairn is unfortunately too unwell to personally attend to business.

The Sugar and Coffee markets have revived of late but not with any material advance in prices. The last Exchange was 30/8. It has risen here a little.

You would have better accepted I apprehend the prices offered you at home.

I am, Very truly yours,

S. WILLIAMS

Brot. Manilla Indigo, average abt 6/6
Surat Cotton—15 or 16 d
Buenos Ayres Hides, average 7½
Best figs, 32 or 35 tt each—9d
Nothing further from Capt. Prince.

It would appear that Captain Prince shed no tears over the capture of his cotton by the English cruiser and was very glad to sell it to the insurers.

Exactly what happened to the *Martha* may be inferred from the account of her arrival:[23]

Oct. 3 arrived (and saluted the town) the fast sailing ship *Martha* of fourteen guns, Captain John Prince, Jr. from the Mediterranean. Left Marseilles the 29th of July under convoy of the United States frigate *Essex,* William Bainbridge, Esq., commander. On the 9th of August sailed for Barcelona and collected on the coast of Catalonia, Alicante, Carthagena and Malaga about 20 sail of American vessels among which were the brigs *George Washington* of Salem, *Nancy,* Barker of Salem, and *Mars,* Orne of Salem and schooner *Industry,* Cook, of Salem.

Left at Gibraltar, brig *Hiram,* Smith, bark, *Hannah,* White, both of Salem.

The *George Washington* which was a much smaller vessel than the *Martha,* must have made excellent time for she arrived the same day.

The reason for the convoy was two-fold. It was during the period while we were still 'appeasing' the Barbary corsairs and first one state and then another broke loose and preyed on our ships. Just at this moment Tripoli was the chief menace. The other threat is best explained by the following news item:

Notwithstanding the French Government have taken the commissions from all their privateers, they are as numerous in the straits as before under Spanish colors.[24]

In other words France, as during this entire period, was giving us paper concessions which pleased the Jeffersonians but actually amounted to nothing.

[23] *Salem Gazette,* 26 October 1801.

[24] *Salem Gazette,* 6 October 1801.

Apparently perils of the sea were so common that the newspaper did not think it worth while to mention how close to disaster the *Martha* came when in sight of home. The log however says:

> Oct. 2, 1801 Saw Cape Ann Lights at 7 P.M.
> Oct. 3, 8 A.M. foggy—saw ½ way rock close on board.
> 9 A.M. saw surf of the shore—let go small bower anchor and brought up about a cable's length from the rocks on Manchester Neck—carried the stream anchor the length of the cable and hawser hove in.

That is all the log says, but probably there was dense fog and little wind and they were able to warp the ship out and feel their way into the harbor. There must have been considerable ground swell to produce the surf.

When the *Martha* got home, she had been gone about nineteen and a half months and what had she accomplished? Her dutiable cargo[25] was about 26,500 gallons of wine and $20,000 worth of merchandise in round figures and paid duties of $8,833. Her owners including Captain Prince and Jeremiah Lee Page, and Thomas Dowling were the largest consignees. The Custom House Books tell only a part of the story however. The ship's manifest contains not only what is ordinarily thought of as merchandise but also such a vast variety of articles and many of them in such considerable quantities as to justify calling the *Martha's* voyage a ladies' shopping expedition. The commodities imported were as follows:

Oyl	Anchovys	White Twine
Silks	Blank Books	Shoes
Umbrellas	Vermicelli	Cheese
Crapes	Marcaroni	Marble Chimney Piece
Soaps	Cambricks	Marble Vases
Verdigrease [gris]	Silk Stockings	3 Marble Tables
Bologna Sausage	Ribbons	Silk Shoes
Hats	Prunes	Brandy
Hair Powder	Florence Wine	Ladys White Kid Gloves
Pomatum	Red Wine of Catalonia	Thread
Olives	White Wine	Sewing Silk
Paper	Almonds	Persian Carpets
Capers	Nuts	

A vague clue to the value of the cargo in America can be worked out from the customs duties of $8,800. Few, if any, duties exceeded 25% and many commodities were duty free and the duties were levied on cost abroad usually, so we can assume that the cargo cost somewhat more than $35,000. On these miscellaneous fancy articles regarded as risky invest-

[25] Custom House Impost Book, 7 October 1801.

ments the owners could certainly expect 100 to 150% profit, so the cargo would bring in America at least as much as $80,000 to $90,000. The wage bill for the voyage was about $6,800 and the other expenses were perhaps twice as much more, so the voyage must have earned the owners of the cargo $25,000 or $30,000.

In addition we must compute the profit on the sugar and coffee carried out, even if it was small. Also there was the cotton carried from Smyrna to Barcelona and Marseilles and the opium which formed part of the outbound cargo of some ship to China and was never entered in America. This is of course a very rough computation, and even with the accounts of the voyage before one it is very difficult to compute the net profit, because so many items like freight for consignees not owners become ledger charges against similar charges by them for ships which they owned. These items are hard to unearth and identify as are insurance, invested capital and other items carried by the merchants on their books but not on the ship's accounts. It must, however, have been an alluring form of activity for shrewd, quick-witted men willing to take business risks. The surprising part of it was the great number of men taking part and the number, almost as large, who succeeded. Masters, mates, carpenters and even able seamen had their ventures as well as innumerable men ashore. Almost everybody had a share in the success except the stupid, drunken and idle who never succeed in any age.

The Battle of Porto Praya, 1781

BY WILLIAM B. WILLCOX

THE War of American Independence, in its naval aspect after 1778, became a world war in almost the modern sense. As France, Spain, and Holland entered the fight, the scene of operations broadened from the American coast to the Caribbean, Gibraltar, the Cape of Good Hope, India and the Indian Ocean; there were even threats of a British descent on the Dutch East Indies and the Philippines. America became only one of many theatres of war, and the independence of the United States only one of many issues at stake. Those issues were interwoven, so that our independence depended in part on battles thousands of miles away, just as British power in India depended in part on the fleets in the Caribbean.

From the geographic viewpoint, this was naval war in the grand style. From the strategic viewpoint, however, it was on both sides a war of singular ineptitude. The British abandoned their traditional strategy of blockading the Franco-Spanish coasts, which had been so effective before and was to be even more effective later. Instead they tried to wage an offensive war in America, and elsewhere both to hold their own at all points and to gather in from their enemies such succulent morsels as St. Eustatius and the Cape of Good Hope. At a time when the Franco-Spanish fleets were almost equal in numbers to the British, this policy was an invitation to disaster.

Disaster came, at Yorktown. But it might have come far more often if the Allies, and particularly the French, had been equal to their opportunity. British fumbling had given them the chance to seize the strategic initiative. They might have diverted enemy strength to the four corners of the globe by feints and minor offensives, and then struck with their full remaining force at an objective of their choosing—the American coast, the West Indies, India, even Great Britain itself. Instead they frittered away their fleets by dividing them proportionately to the British, failed to concentrate decisively at any point (except for a moment off the Chesa-

peake), and therefore failed to reap the fruit of British blunders. They wasted their chance, in Mahan's vivid phrase, 'by nibbling at the outskirts of the British Empire, and knocking their heads against the Rock of Gibraltar.'[1]

From the tactical viewpoint the war was far more interesting. It was a period of transition from the sterility of the previous age to the brilliance of the Nelsonian. It opened with dreary obedience to the Fighting Instructions: commanders at sea, and their superiors at home, were waging a *guerre de postes*, in which fleets were primarily a means of winning or maintaining land objectives; pitched battles were avoided if possible, and if not were fought inconclusively on parallel lines. But by the beginning of the 1780's there were signs of a new spirit in the conduct of two commanders, one English and one French, in widely separated theatres. The Englishman, Rodney, has received from American historians the attention which he deserves; his campaigns were associated with the American phase of the war, and his climactic victory was won in the Caribbean. The Frenchman, Suffren, has been less noticed. This is partly because he fought in distant seas, partly because he never achieved a triumph like Rodney's Battle of the Saints. But Suffren's one campaign influenced the war as a whole, and revealed a combination of strategic and tactical brilliance unique in the annals of the French navy.

The genesis of that campaign was the situation created by the British declaration of war on the Netherlands, in December of 1780. The French had already determined to revive the flagging struggle for India, but Dutch belligerency shifted the focus of immediate attention in this theatre to the Cape of Good Hope. If that Dutch base fell to the British, the French route to India would be cut, and the French bases at Mauritius and Reunion would be virtually impossible to supply. For Great Britain, conversely, the possession of the Cape would greatly facilitate, as it did in the Napoleonic Wars, operations off India and southeast Asia. In the spring of 1781, therefore, a squadron and convoy were sent to South Africa, the troops of the convoy to seize the Cape, the squadron to continue to India to reinforce the fleet of Admiral Hughes. The French answer was uninspired: an equivalent squadron and convoy, the troops to hold the Cape, the squadron to reinforce the fleet based on Mauritius.

[1] Alfred T. Mahan, *The Influence of Sea Power upon History 1660-1783* (24th ed., Boston, 1914), p. 535. This chapter is still one of the best analyses of the general strategic situation. A more detailed study of the French strategic problems by 1780 is the second chapter of Raoul P. V. Castex, *La manoeuver de la Praya* (Paris, 1912); one of the few available copies is in the Harvard College Library. Castex points out (p. 37) that the French determined 'to fight a war strategically on parallel lines, just as the battle on parallel lines was the tactical dream of the period.'

The chance for a concentration of the two French forces at the Cape was lost by delay, and the operation seemingly resolved itself into a mere race for Capetown between the French and British squadrons sailing from Europe.

The British force left Spithead on 13 March, under Commodore Johnstone, at the same time as Admiral Darby's fleet for the relief of Gibraltar. Darby was delayed in Ireland, and was ten days behind Johnstone in the voyage down the French and Spanish coasts. The French force, under Suffren, sailed from Brest on 22 March, in company with De Grasse's fleet bound for the Caribbean. If the French concentration had met the two British squadrons, the battles might have decided then and there the outcome of the whole war.[2] But De Grasse, Johnstone, and Darby were not thinking in terms of pitched battles, and the French passed between the British without incident. On 29 March Suffren was detached on his mission, the first part of which was the pursuit of Johnstone.

The pursuit virtually ended on 16 April, in a most unorthodox way. The British had put in for water and supplies at the Cape Verde Islands, where their fleet and convoy were anchored in the bay of Porto Praya. Suffren, also short of water, had decided to call at the same spot. As soon as the British were revealed, he left his convoy and led his ships of the line into the bay—seeking a decisive battle as ardently as most of his contemporaries avoided it. He pushed the attack with audacity, in disregard of the century-old French habit of caution at sea. A new and aggressive spirit appeared that morning; Suffren's first squadronal command had given him the opportunity to brush aside all the accepted maxims of the *guerre de postes*.

The action accomplished his strategic purpose. He inflicted damage which it took the British more than a fortnight to repair. A fortnight was too long. By the time they reached the Cape, the French had made it too strong to attack. Johnstone turned back, though he sent some of his ships to join Hughes; Suffren went on to his brilliant campaign off India. Thus Porto Praya was both the Frenchman's first major exploit, and the one which made possible his subsequent career. It was also a battle of unusual interest in the tactical problems involved, and is worth reviewing in the light of new material.

The engagement was decisive in its results but not its tactics. To this extent only it resembles De Grasse's cannonade with Graves off the Chesa-

2 'A very few weeks may probably show a little daylight on the event of this war, for in all probability on whichever side a great victory is obtained, [it] will turn the scale of the war.' (Sir Charles Grey to Sir Henry Clinton, Plymouth, 3 February 1781; Clinton Papers, Clements Library.) For a discussion of the strategic possibilities, see Castex, *La Praya*, pp. 203-208.

peake five months later. Its design was on a grander scale, comparable with Rodney's plan of attack on De Guichen on 17 April 1780. Suffren, like Rodney a year before, intended a battle of annihilation. His intention, like Rodney's, miscarried through his own fault and that of his captains. His failure, like Rodney's, was one of the bitterest disappointments of his career.[3]

This failure is difficult to explain. Johnstone had been forewarned of his danger, but had made no preparations. Suffren had the advantage of surprise, therefore, accentuated by his impetuous leadership of the van. He had the advantage of manoeuver: his ships were making for an anchorage of their choosing, while Johnstone's were immobilized at anchor. He should have had the advantage of concentration of fire: his two 74's and three 64's were in line ahead (though with a gap between van and rear) against one British 74, one 64, three 50's, four frigates, and a miscellany of lesser warships and armed merchantmen and transports, all of them unready, disordered, and so disposed as to mask each other's fire. The French sought close action, and two of their five captains were killed. Yet their gains were a fireship and an East Indiaman, balanced against the dismasting of a French ship of the line—a drawn battle at most. Why? A number of naval historians have considered the question.[4] They agree that only two or three of the French ships played a real part in the action, and therefore blame Suffren's captains for failing to support him here, as in

[3] 'La Praya,' said Suffren later, 'could and should have immortalized me. I missed or was made to miss a unique opportunity.' Castex, *La Praya*, p. 264.

[4] The most exhaustive treatment is that of Castex, already cited. The author's worship of Suffren leads to exaggeration, and to stronger denunciation of the French captains than the circumstances justify. But his new material from French archives, interpreted with professional insight, gives the book peculiar value. He largely ignores the printed sources and later historians. Of the former, the most accessible accounts are in *The Annual Register, or a View of the History, Politics, and Literature, for the Year 1782* (London, 1783), 'History of Europe,' pp. 108-110; Captain Trublet (one of Suffren's officers), *Histoire de la campagne de l'Inde, par l'escadre française, sous les ordres de M. le bailli de Suffren, années 1781, 1782, 1783* (Rennes, [1802], pp. 14-27); the chevalier Barbier de la Serre, *Essais historiques et critiques sur la marine de France de 1661 à 1789* (London, 1813), pp. 189-191, 219. Commodore Johnstone's biased report, in a letter to Lord Hillsborough of 30 April 1781, is published in *The Gentleman's Magazine and Historical Chronicle*, LI (for 1781; London, [1782]), 617- 621; the equivalent French source is Henri Moris, ed., 'Journal de bord du bailli de Suffren dans son expédition des Indes,' *Annales de la société des lettres, sciences & arts des Alpes-Maritimes*, XI (Nice and Paris, 1887), 253-609. Later studies of the battle are by Charles Marie Cunat, *Histoire du bailli de Suffren* (Rennes, 1852), pp. 49-62; Louis Edouard Chevalier, *Histoire de la marine française pendant la guerre de l'indépendance américaine* (Paris, 1877), pp. 363-371; and Mahan, both in *The Influence of Sea Power* already cited (pp. 421-427) and in W. L. Clowes, ed., *The Royal Navy: a History from the Earliest Times to the Present* (7 vols., London, 1897-1903), III (1898), 545-549. Mahan bases his account on Cunat, who in turn draws his (at times verbatim) from Trublet's journal; until recently, therefore, the engagement has been viewed predominantly from the French side. The only modern treatment of the campaign and battle is from the British side: G. Rutherford, 'Sidelights on Commodore Johnstone's Expedition to the Cape,' *The Mariner's Mirror*, XXVIII, (1942), 189-212, 290-308. These two articles are based on published and unpublished British sources, in addition to those cited above, and are by far the best treatment of the origin and development of Johnstone's campaign.

the later battles against Hughes off India. 'It was only this misconduct,' according to a recent text, 'that saved the British from the crushing attack that Suffren had planned.'[5]

Suffren's captains may well have been his curse in the campaign against Hughes, if only because he lost two of his best at Porto Praya. New evidence suggests, among other things, that the conduct of his subordinates that morning was less reprehensible than is usually thought. This evidence is two British eye-witness accounts of the battle. They are best treated by first giving their important sections, and then considering the conclusions to which they point.

I. *Benjamin Slacke:*

TRANSACTIONS OF THE SQUADRON AND CONVOY COMMANDED BY COMMODORE JOHNSTONE ON A SECRET EXPEDITION.[6]

[The account opens with the sailing of the fleet on 13 March. On the twenty-sixth Johnstone detached a 50 and a frigate to cruise off Madeira, in case the Spanish should engage Darby's fleet off Gibraltar, and crippled Spaniards should make for Madeira to refit.[7] On 9 April Johnstone divided his squadron: a 64, a 50, a frigate, and about half the convoy sailed for the Island of Mayo in the Cape Verdes, while the rest went on to Porto Praya, on the south shore of the Island of Santiago. At Porto Praya the British learned that Suffren was expected at any moment; the details of this vital information are given in the second account. The ships detached to cruise off Madeira rejoined on the thirteenth, and by midnight of the fifteenth the division from Mayo had straggled into Porto Praya Bay.]

Monday, April the 16th, at half past nine o'clock in the morning, the *Hinchinbroke* (one of the outermost ships)[8] made a signal for seeing strange ships, and soon after the *Isis* [No. 5, a 50] made a signal for seeing ten sail. The commodore answered it, and immediately hoisted the signal for all persons to repair on board their ships, to unmoor, and to prepare for action. At a quarter before eleven o'clock five sail of French line-of-battle ships turned round the easternmost point of the bay in line of battle leading ahead.

The first (No. 12) hoisted her colours and began to fire her larbord guns as they came to bear on our outermost ships. She directed for the *Monmouth* (they expected

[5] William O. Stevens and Allan Westcott, *A History of Sea Power* (New York, 1944), pp. 176-177.

[6] The extract and plan of the battle are from a bound manuscript report sent by Slacke to Lord George Germain, secretary of state for the colonies. The report covers the expedition from its sailing on 13 March to its return to Dartmouth on 12 October. It is in the Germain Papers, supplement, Vol. II, in the W. L. Clements Library of the University of Michigan; its authorship appears from an accompanying letter, misdated 15 February 1781, in Vol. XIV of the same papers. I have modernized the spelling and punctuation of this and the following extract. Slacke's plan is reproduced as Plate 5.

[7] Such an engagement was expected. The Spaniards supposedly had thirty ships of the line in Cadiz, but refused battle. Sir George Collier to Germain, 22 April 1781; ibid., XIV.

[8] An East Indiaman of 26 guns, No. 9 on the accompanying plan, Plate 5.

her athwart their hawse),[9] but she stopped short, dropped an anchor, and veered away alongside the *Hero,*[10] rather on her quarter.

The second (No. 13) dropped her anchor on the starboard bow of the *Infernal* [a fireship], and veered away upon the quarter of the *Monmouth.*[11]

The third (No. 14) anchored astern of No. 2 [13], but it is imagined her anchor did not hold as she drove. She boarded the *Hinchinbroke* and sent her to sea, and attempted the *Fortitude* [No. 10, an East Indiaman of 30 guns], but was beat off by the spirited conduct of Capt. Jenkinson and a company of the 98th Regulars.[12]

The fourth (No. 15) could not weather the *Diana* [No. 6, a frigate]; she run so close under her stern as to tear off part of her ensign, and passed through the fleet as much as possible to windward, directing her attack toward the broad pendant.[13] She could not go ahead of the *Valentine* [No. 11, an East Indiaman of 32 guns], passed under her stern, and the situation of the *Jason* [No. 8, a frigate] obliged her again to bear away, giving the *Romney* as she passed all her starboard guns from midships aft. She went under the *Jason's* stern and bore up, seemingly with intention of raking the *Romney,* but was so near the rocks and breakers at the west point of the bay that she was under the necessity of wearing ship instantly to get clear, which she did in great confusion, and hauled her wind in order to work again into action.

The fifth (No. 16) laid alongside the bomb,[14] and afterwards passed through the fleet, keeping up a very hot fire as she passed them.

Notwithstanding the suddenness of the attack, and our men-of-war not being entirely clear for action, yet they began and kept up a steady and well-directed fire up-

[9] I.e., across their bows, a raking position. The *Monmouth,* 64, is No. 3 on the plan; No. 12 is the *Héros,* Suffren's flagship. Slacke refers to French ships at times by their numbers on his plan, at times by their order of entrance into the bay; in the latter case I have added the plan numbers in brackets.

[10] Number 2, the only British 74. Slacke implies that Suffren's initial purpose was to engage the *Monmouth* rather than the *Hero,* and that his plan was changed by inability to keep close enough to the wind. Johnstone explains the veering away by failure of the springs on the *Héros'* anchor cables (*Gentleman's Magazine,* LI, 617); the *Journal de bord* does not mention an attempt on the *Monmouth.*

[11] Slacke's narrative begins to diverge from the other accounts. Number 13 was the *Annibal,* 74, which according to Johnstone and later writers anchored so close ahead of the *Héros* as to force her to drop astern. Slacke indicates that the two were never in proximity. He fails to explain why the *Annibal* should first have attacked a mere fireship, and then failed to come to close quarters with either the *Monmouth* or the *Isis,* between which his plan shows that she passed in veering away. The explanation may be the fact that, through her captain's error, she had not cleared for action until too late.

[12] Captain of the troops; see the *Annual Register,* p. 110. Number 14 was the *Artésien,* 64; she mistook the *Hinchinbroke* for a ship of the line—a natural error in the smoke, especially since the East Indiaman was in a position which a commander of normal intelligence would have reserved for a man-of-war.

[13] I.e., Johnstone's flag, which was originally in the *Romney,* 50 (No. 1). Neither Slacke's plan nor wording makes clear whether he refers to the *Romney* or the *Hero.* Johnstone describes transferring his flag to the latter during the action.

[14] An 8-gun bombship, the *Terror;* Slacke always refers to her as the bomb. Number 15 was the *Sphinx,* Number 16 the *Vengeur,* both 64's. Johnstone's account of their courses differs considerably, and is the basis for later descriptions. 'The fourth ship ran on different lines, luffing and bearing up as he passed among the skirt of our ships, and firing and receiving fire as he sailed along, but seemingly in great confusion also, and at last, with much difficulty, he wore clear of the reef on the west point without [beyond] us. The fifth ship ran among the merchant vessels also, firing at all, and attempting to board two or three as she passed along, without success' (*Gentleman's Magazine,* LI, 618). It should be remembered that Johnstone was anxious to belittle the effectiveness of the French attack.

on the enemy, and in a very little time they were seconded by some of the India ships.

The French laid their guns too high. Their shots passed over our ships nearest to them, and those suffered most who were farthest from them in the line of their fire. The *Romney's* red flag at the foretopmast head[15] was shot through. The weight of our fire was directed against the two ships, No. 1 and No. 2 [12 and 13]. They behaved most gallantly, but they were not effectually supported by the manoeuvers of the three ships, No. 3, 4, and 5 [14, 15, and 16].

The wind blew out of the harbour. At a quarter past twelve o'clock No. 1 [12] cut her cable and went out.

The whole of the fire of our ships (which could be brought to bear) concentrated on No. 2 [13]. Her sails and rigging were torn to pieces, at the same time the shot struck the water all round her; her men could no longer stand to their guns. She followed the example of No. 1 [12], and drifted out under the fire of every ship she passed, now and then firing a single gun in return. She attempted to drop her courses, but her main and mizzen masts went over the side, and soon after the foremast, a stump of it of about twenty feet only remaining. She drifted to leeward, and was soon after taken in tow by one of the French ships of the line. The other three made several manoeuvers, at one time toward their convoy, consisting of ten or twelve ships which were then in the southeast quarter, and again towards the bay to cover their disabled ship.

At the same time the *Hinchinbroke* was going down towards their convoy, and the *Infernal*, bomb, [and] *Edward* (who had cut their cables) were endeavouring to turn again into the bay. The *Infernal* was taken possession of, and her captain taken out; they obliged her to bear away, but did not leave any men on board. She bore up that night and escaped.[16] The bomb had lost her foremast and was closely pressed by one of the French ships, but Capt. Wood gallantly and with much address got clear of him.

Commodore Johnstone made the signal for all captains immediately after the action was over. He was much surprised on receiving the particulars of the damage done to the ships of war: none of them had received any material damage (except the *Isis*[17]), and they had very few men killed or wounded. This appeared to be the more extraordinary as the engagement had lasted nearly one hour and a half, very close and in smooth water. The captains received orders to get out their respective ships as fast as possible, which order was immediately repeated by the signal to cut or slip.

At half past two o'clock the *Romney* slipped her cable. The rest of the men-of-war got out also, except the *Monmouth* and the *Isis*. The first slipped at three o'clock and was followed by the *Isis* in a few minutes.

After some delay in forming the line our squadron went down on the French, and towards dusk we saw him close up with them. The French had had their dismasted

[15] Presumably an early example of the use of the red ensign as a battle signal. This had been enjoined by the fighting instructions established by Admiral Darby at Spithead the previous February; see Sir Julian S. Corbett, ed., *Signals and Instructions, 1776-1794* (publications of the Navy Records Society, XXXV, [London,] 1908), 135, 167, 299 note, 300.

[16] The *Edward* was a 19-gun victualler, which escaped; for the *Infernal* see below, notes 26-27.

[17] According to Slacke's plan, the *Diana* and *Isis* had been in range of all the French ships, which presumably concentrated on the *Isis* as the larger.

ship in tow, and she formed one of their line (she had raised a sail on the stump of the foremast). It grew dark, and we knew no more of them, but remained in the most anxious expectations of intelligence from the fleet; and not a doubt was entertained of their defeating the French squadron whilst the frigates attacked their convoy. We only regretted that the armed transports had not been taken, to assist the frigates in this service.

Thursday, April the 19th, our fleet returned without having fought the French. They slipped their cables [on the 16th] amidst the repeated cheers and acclamations of every voice in the convoy; they returned to their anchors in tranquillity. All was dismally silent.[18]

II. *Patrick Ross to Lord George Germain, 6 March 1782.*[19]

My lord:

When I left England I was in hopes no circumstances would have occurred that could have prevented my first address from conveying to your Lordship an account of the reduction of the Cape of Good Hope. But as that event is yet far off, and as your Lordship was interested in the success of the expedition, which, notwithstanding that, has not been altogether devoid of incident, I imagine some account of the particulars from a person present may be acceptable, and will, I hope, plead my excuse for the trouble of this.

We had a favourable passage from England to Praya Bay, where we anchored at eight in the morning of the 10th of April with about one half of our fleet. The other half went with the *Monmouth, Isis,* and *Diana* to the Isle of May[o], in expectation of finding water there.

Praya Bay is . . . the seat of the Portuguese government. It was intended, if we could not procure a sufficient supply of water for the first division of the fleet there, to send the men-of-war to Santiago Bay, where it was said to be in greater plenty but the anchorage not so good.

We were agreeably disappointed on finding our supplies in Praya Bay more ample than we expected. Tolerably good water in abundance, some tropical fruits, and some cattle. Insomuch that, the water of the Isle of May[o] proving brackish and difficult to be come at, the other division of the fleet was ordered down.

[18] Johnstone tried to blame the slowness of his pursuit on the delays occasioned by Captain Sutton, commanding the *Isis*. Her battle damage had been so serious that she was dismasted soon after putting to sea, which would seem to have justified Sutton's hesitation in slipping anchor. But Johnstone was eager for a scapegoat; he promptly arrested Sutton, and sent him a prisoner on the *Isis* to join Admiral Hughes off India. Hughes was given no hint of the charges, and reported months later that the captain was still a prisoner, 'no opportunity having yet presented of sending him and his three lieutenants and boatswain to England, whose return with him he claims as evidences at his trial; and the peace and harmony of the ship, so essentially necessary to her being well conducted in times of trying service, has suffered much from a spirit of party against the acting captain, unavoidable from circumstances' (Shelburne Papers, Clements Library, XCVIII, 560-561). Sutton was finally acquitted, and brought a civil action against Johnstone; see John Charnock, *Biographia Navalis; or, Impartial Memoirs of the Lives and Characters of Officers of the Navy of Great Britain, from the Year 1660 to the Present Time* (6 vols., London, 1794-98), VI, 503-504; Rutherford, 'Commodore Johnstone's Expedition,' *Mariner's Mirror,* XXVIII (1942), 294-297, 299 note 1.

[19] A long letter in the Germain Papers, XV; an incomplete copy is in the same volume, dated 22 September 1781. This extract has not been published. Other portions, dealing with India, are summarized and printed in the Historical Manuscripts Commission, *Report on the Manuscripts of Mrs. Stopford-Sackville, of Drayton House, Northamptonshire* (2 vols., London, 1904-10), I, 364-365, 368.

I went on shore on the 13th and waited on the commandant, where I saw the shore book, which mentioned the arrival of the *Sérapis*[20] on the 22nd of March, on her way to the Cape of Good Hope. She sailed from thence eight days before our arrival, and before her departure told the inhabitants they might expect, by the middle of April, a fleet of twenty sail of French ships on the same route. The inhabitants added that when we approached in the offing, they took us for them.[21]

Fortunately for us, the last of our ships from the Isle of May[o] came in on the 15th, or in all probability we should have fallen piecemeal into the hands of the French, who paid us a visit the next day.

At three-quarters after nine in the morning of the 16th, the *Isis* made the signal for seeing a fleet in the northeast quarter, on which the commodore made the signal for everybody to repair on board their ships, there being about two thousand people on shore watering, etc. He soon after made the signal to prepare for battle. By this time we were informed from the masthead that one of the strange ships would be in within half an hour, and a little after that they were to be seen from the poop, from whence we could distinctly perceive one ship standing in close under the land, then a second, then a third, and soon after three more following them.[22] One of the headmost ships made a number of signals we did not understand, which, together with their appearance, convinced us they were enemies. But we differed in opinion with respect to their nation until they round[ed] the point of the bay, when they boldly stood in amongst us, hoisted French colours, and, without paying the least respect to the neutrality of the port, immediately began to engage. Some of them came to anchor in the midst of our fleet, whilst the others sailed through it doing what mischief they could. After a smart engagement of almost two hours the enemy, having suffered very much, cut their cables and stood from amongst us. Soon after their last ship was clear of our fleet she lost all her masts, which left her in appearance a perfect wreck on the water. When the ships that went out before her perceived it, they stood in again and covered her retreat.

The moment the enemy fired, our signal for battle was made, when everybody began, with their lumbered ships and the few men they had on board, to do the best they could for themselves; and notwithstanding the utmost confusion, were able to drive them from amongst us.

[20] The famous British frigate *Serapis*, captured two years before by John Paul Jones in the *Bonhomme Richard*. She had been sold to the French and reconditioned as a privateer, and had set out from Lorient for the Indian Ocean at the end of February 1781 (Castex, *La Praya*, p. 171 and note).

[21] The message brought by the *Sérapis* proves that Suffren had had in mind as early as February the possibility of calling at Porto Praya. Slacke implies a more definite prearrangement: 'The captain of her left a letter with the Portuguese governor to be delivered to Mon. Suffren, who, he informed him, would be at Praya in a few days with a large squadron of men-of-war; and he desired that fresh provisions might be prepared for the refreshment of his fleet.' (These were presumably the provisions which the British found.) It is apparent from Suffren's letter of 9 April, however, that the final decision to call at Santiago was made during the voyage (Castex, *La Praya*, p. 277). The French managed to continue to the Cape without additional food and water only by rationing the ships (Chevalier, *Guerre de l'indépendance*, p. 363).

[22] The sixth ship was presumably *La Fortune*, the sloop mentioned by Ross below. Another British witness of the battle repeats the account of finding the shore book. 'But to this no attention was paid, no lookout kept to windward, the men-of-war anchored within the convoy never moved out, and everybody who chose suffered to go on shore.' When the French appeared, 'it is impossible to describe our situation and confusion' (from an extract of a letter in the Shelburne Papers, CXLVI. no. 97).

In such a business as this, and with such a mixture of people under the influence of different interests,[23] you will easily imagine there was a great difference in their behaviour, the particulars of which I shall not enter into, as they are variously reported.

[The following paragraphs describe the British losses, Johnstone's pursuit and return with the *Hinchinbroke*, and the composition of the French fleet and convoy. They add nothing to Slacke's account, beyond a report that the French 'made a masterly retreat with their crippled ships.']

The prisoners mentioned a dreadful carnage on board their ships in the engagement with us, to the amount of three hundred in the *Annibal* only. Our loss I imagine to be about two hundred killed and wounded.[24]

It was the general opinion of the navy gentlemen that, had our fleet engaged the enemy at sea, they would have given a very good account of them; but from the able manner in which they carried off their disabled ship, it was not to be expected without our ships suffering materially.

The manner in which the enemy came in to attack us underwent much criticism by the gentlemen of the marine,[25] and the conduct of our commanders not less by the fleet at large, all of which you will have had in the newspapers, together with the ostensible reasons on which to form a judgment.

The *Infernal*, fireship, joined us on the 26th. She had been in possession of the enemy, who took out the captain[26] and ten of her people, and sent on board some of theirs to take charge of the ship, amongst whom a dispute arose about prize master, which they could no otherwise settle than by going on board *La Fortune*, where they all went.[27] And night coming on before their return, Lieutenant Hamilton brought her off. After he determined to do this, he was hailed in English by the *Hinchinbroke*, then in possession of the French, to which he made no reply; and on being hailed in French, answered he was *La Fortune*, ordered them to follow him, and led them clear of the enemy's fleet. I have never had the pleasure of seeing this gentleman to learn the particulars from himself, but if they be such as they are generally represented, they do him much credit, and makes me regret his not having been so fortunate as to be included amongst the promoted on the occasion. The people of the *Infernal* confirm, in several instances, the report of the enemy's having suffered very much.

[23] The expedition was composed of forces of the army, the navy, and the East India Company.

[24] These figures are little different from those given by Mahan: for the British, 36 killed and 130 wounded; for the French, 105 and 204 respectively (Clowes, *Royal Navy*, III, 549).

[25] Presumably a reference to the disregard of Portuguese neutrality. Suffren had little cause to respect it, since he had been captured in 1759 in an action in which the British had violated it themselves. This was one of the reasons which he gave for his conduct at Porto Praya (Castex, *La Praya*, pp. 251, 261-262).

[26] Captain Darby, a relative of Admiral Darby. The admiral was worried about his kinsman when he heard of the battle, and baffled by the conduct of the French. 'It certainly was a very extraordinary attempt of theirs. Had they had fireships or [? had we] made use of ours, it might have been fatal to many' (G. R. Barnes and J. H. Owen, eds., *The Sandwich Papers*, IV [publications of the Navy Records Society, LXXVIII (London), 1938], 45). The last sentence is puzzling, in view of the fact that the wind was northeast by north, but I believe that the editors' bracketed insertion should be omitted.

[27] The *Fortune* was a sloop previously captured from the British. According to Chevalier, Suffren ordered her to escort the convoy; she received the order at the moment of manning the prize, which she had to abandon (*Guerre de l'indépendance*, p. 368 note).

So much for the documents. The first question about them is their reliability. Both were presumably written some time after the event, since Slacke's narrative ends at Dartmouth in October, and Ross's at Bombay in the following March. But both men were eye-witnesses of the battle and, except in minor details, corroborate each other closely. Although both were British, there is no sign of more than the normal desire to extenuate British conduct. Their accounts, therefore, would seem to be as credible as any. The next question is what they reveal.

One thing is written large in them: the almost unbelievable incompetence of Commodore Johnstone. The man was primarily a politician, more adept in the tactics of the House of Commons than of a fleet. He had made an unenviable name for himself two years before by a speech in the House, attacking Lord Howe, in which he had advanced the theory that the strength of a fleet was determined by the arithmetical total of its guns rather than the nature of its ships.[28] Fate gave him the chance at Porto Praya to vindicate his theory. He failed not only in that impossible task, but even in his rudimentary responsibilities. His conduct has been criticized before, sometimes pungently.[29] The new evidence makes it worth reëxamining, however, as a study in how not to command a fleet.

He began by dividing his forces. His detaching two ships to cruise off Madeira was understandable but dangerous, in view of the likelihood that a French squadron was pursuing him. He subsequently detached a 50 and two frigates, which the documents do not mention.[30] He then sent half the fleet to Mayo and half to Santiago, and—to cap the climax—thought of subdividing the latter division, the men-of-war to Santiago Bay and the convoy left unprotected in Praya Bay. His reason was the supply problem, which might have been solved without serious dispersion by using his frigates for reconnaissance.

His subsequent actions are even less credible. Porto Praya was reached on the tenth. It was the thirteenth before Ross went ashore and obtained, apparently by chance, the all-important news of Suffren's plans. The

[28] 'The only instance of an assumption having been made that the presence of a number of small vessels added to the strength of a fleet was that of the eccentric Commodore Johnstone who, adding up all the guns in all the ships and vessels and transports under Lord Howe, propounded the droll view that, having a greater total weight of metal, Howe was superior to his antagonist.' (Sir Herbert Richmond, *Sea Power in the Modern World* [New York, 1934], p. 122). The shortcomings of Johnstone's mind and character are vividly portrayed in the Rutherford articles in *The Mariner's Mirror*, already cited.

[29] The writer of the letter in the Shelburne Papers already quoted (CXLVI, no. 97) concludes that Johnstone's conduct must make him blush for his tactical ideas in the speech against Howe, '*which [I] recommend to your perusal*, and then to recollect the fate of Byng.' Mahan is content with accusing Johnstone of 'preposterous mismanagement' (Clowes, *Royal Navy*, III, 549).

[30] Rutherford, 'Commodore Johnstone's Expedition,' *Mariner's Mirror*, XXVIII (1942), 206-207.

French were expected 'by the middle of April,' in other words at any moment, and were unaware of his presence. Fortune had given him the weapon of surprise, to use against them as he chose. What did he do? He failed not only to use the weapon, but even to guard himself against its use.

He seems to have made no attempt to hasten the forces from Mayo, which were ordered to rejoin for other reasons. They came straggling in, 'fortunately for us,' on the evening of the fifteenth.[31] He allowed them to anchor in complete disorder. The most exposed positions, according to Slacke's plan, were taken by the *Isis*, a mere 50, the frigate *Diana*, a 32, and two East Indiamen, the *Hinchinbroke* and *Fortitude*. The most powerful units of the fleet, the *Hero* and *Monmouth*, were stationed where their field of fire was obstructed by transports and victuallers. The flagship was remote from the point of greatest danger, and the other men-of-war, a 50 and two frigates, were almost equally so. Johnstone's preparations, in short, seem to have been nonexistent.[32]

The same is true of his leadership. The action lasted for an hour and a half according to Slacke, for almost two hours according to Ross; Johnstone had plently of time to plan a counterattack. The *Annibal* finally retired under tow, a mere hulk; she and her escort lost for a time their power of manoeuver, while the three other French ships of the line appear to have been torn between the need of protecting them and the convoy. Johnstone had at his disposal, virtually undamaged, a 74, a 64, two 50's, and four frigates; he also had the weather gauge. His initial dispositions had prevented his forming a line, and a general chase might have been too dangerous. But a threat against the French convoy by the frigates, such as Slacke expected, would have involved Suffren in a most serious dilemma.[33]

[31] They seem to have missed Suffren at Mayo by less than twenty-four hours. At that anchorage they were to windward of Porto Praya, and would have been destroyed before Johnstone could have come to the rescue (see Castex, *La Praya*, p. 243). The sailing time between the two anchorages was so short that Johnstone could easily have reconcentrated his force by the fourteenth. He seems to have suppressed the discovery of Suffren's plans (see Rutherford, *Mariner's Mirror*, XXVIII, 209-210); this suppression may account for the fact that later critics, such as Mahan, were not aware that he had the information.

[32] The approaching *Héros* sighted a brig sailing for the anchorage (*Journal de bord*, p. 273); she may have been a scout, but is not mentioned in any other account. Johnstone claimed only that 'my orders in writing had been strictly given, and punctually communicated, for all the small ships to anchor within the rest' (*Gentleman's Magazine*, LI, 620). Which were the 'small' ships, and why should he have been more solicitious for them than for the East Indiamen? If such orders were sent, why did he not choose the disobedient commanders for his scapegoats, instead of Captain Sutton? His statement raises more questions than it answers.

[33] Charnock suggests that two frigates by themselves might have captured the *Annibal* (*Biographia Navalis*, VI, 501 note). Such an attempt would probably have been suicidal. But it is hard to see how the move suggested by Slacke could have failed: Suffren would have been forced either to let the convoy scatter before the frigates, or to expose the *Annibal* and her escort to the onslaught of the British ships of the line and 50's. It is apparent from the *Journal de bord* (p. 275) that Suffren was acutely aware of this danger.

Instead Johnstone wasted more than two hours before beginning his pursuit. The explanation is that he did not realize how slightly his squdron had been damaged until the captains came on board the *Romney*. But the wind gave him the option of halting the counterattack if the ships were not up to it, and there was every reason for attacking promptly. The delay, and the half-heartedness of the subsequent chase, suggest that the fury of the French attack had done greater havoc to morale than to the ships.[34]

If the two accounts are to be credited, the attack was more furious than commonly supposed. They indicate that Suffren's captains, while they made serious errors, were almost as audacious as he. The *Héros* and *Annibal* bore the brunt of the fight, it is true, while the *Artésien* strained at a man-of-war and swallowed an East Indiaman. But the other two French ships were by no means passive; on this both witnesses agree, although Slacke is the more specific. The *Vengeur*, according to him, sailed through the whole fleet and maintained a hot fire. The *Sphinx* alone got as far as the *Romney*.[35] She failed by a narrow margin to rake her, as she had also failed, apparently, to rake the *Diana* on her way. Both captains lost their chance to anchor, for reasons which cannot be fully established,[36] and with it their chance of a successful offensive. Their conduct in other respects, however, gives every sign of an offensive spirit.

The failure to develop the full power of the squadron was due to Suffren as well as to his captains. He had neglected to concert plans for attack, as Johnstone had for defense, and relied on his signals and example to show the way for his subordinates. This was expecting too much. His squadron was in its first action, and his design was obscured by the smoke and confusion of a mêlée. That design was a brilliant improvisation, but it

[34] Johnstone explained his failure to attack the French at sea on the ground that the chase would have taken him dangerously far to leeward of his convoy—which in fact was endangered by nothing but the enemy fleet. He capped this argument by substituting wishful thinking for strategy: it was probable that 'the enemy must either send off two of their disabled ships of war to the West Indies, in which case I shall have a superior naval force, or they must touch at the Brazils for water and repairs; and perhaps they will be obliged to do both; in either of which cases we shall have a great advantage by the preceding action' (*Gentleman's Magazine*, LI, 619).

[35] Castex assumes that tht *Romney* was not in action, and is therefore puzzled by Johnstone's statement that seven of her men were injured (*La Praya*, p. 345). If Slacke is right, the casualties were inflicted by the *Sphinx*.

[36] French sources are at odds on the courses of Suffren's ships, and hence on why they failed to anchor. Trublet asserts that the whole squadron, except the *Sphinx*, passed to windward of the British; that the *Artésien* lost her anchorage at first because her captain was obsessed with boarding, and then because he was killed at the critical moment, while the *Vengeur* and *Sphinx* lost theirs because of a mistaken belief that the depth was too great (*Histoire de la campagne de l'Inde*, pp. 18-20). If these ships had in fact been to windward of the British—that is, between anchored ships and the shore—their captains' belief would seem incredible. La Serre blames them instead for keeping too far *off* the wind, and thereby losing their chance to anchor before currents swept them out of the bay (*Essais historiques*, pp. 190, 219). The sources used by Castex fail to settle the question (*La Praya*, pp. 292-300 and Plan V).

suffered from its very virtue. Two of its characteristics violated all the precedents on which his captains had been trained: it required of each of them a high degree of initiative combined with an instinctive sense of co-operation; it ignored the contemporary concept of a line of battle, because it left a gap between the three leading ships and the two which followed.[37] The first characteristic reduced the effectiveness of the *Annibal* and *Artésien*; the second transformed the *Vengeur* and *Sphinx* into isolated and bewildered units. Sound tactics cannot be more brilliant than the men who execute them. Suffren miscalculated his captains, and his miscalculation, as well as theirs, was the first reason why the battle was tactically indecisive.

The second reason was mediocre seamanship, aggravated by the fact that some of the French ships were sluggish sailers. Slacke's plan shows numerous opportunities lost because the Frenchmen could not weather the enemies in their path. Whether this was due to shortcomings of the seamen or the ships, or to a combination of both, the effect was markedly to decrease the initial French advantage.

The third reason was poor gunnery. If the sailor's task is to create the best possible opportunity for the gunner, inspiration in the one cannot compensate for incapacity in the other. Only Suffren showed inspiration at Porto Praya. But his captains seem to have known their business better than his gunners. The usual French custom of firing at spars and rigging, instead of hulls, was carried to fantastic lengths, as witness the pierced ensign at the *Romney's* foretopmast head. Such trajectories could not have been intentional; they must have been the work of untried gunners, in their first engagement since leaving Brest. Their British counterparts, on the other hand, made up for their commander's stupidity and their own unpreparedness by competence, or the two casualty lists would not have been what they were.[38]

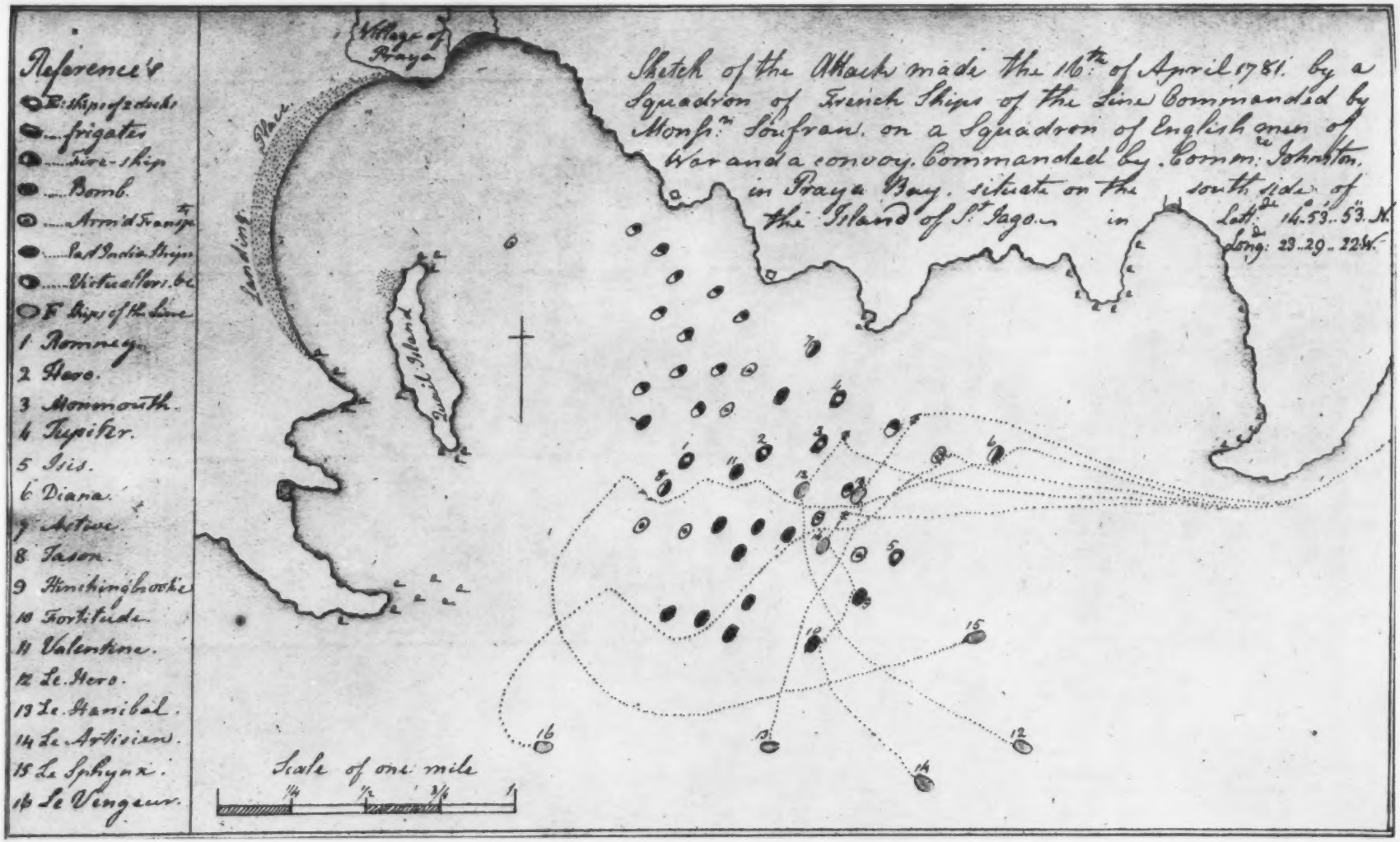
In conclusion, how does Mahan's generalization about the whole campaign apply to its opening battle? 'As the Roman legions often redeemed the blunders of their generals, so did English captains and seamen often save that which had been lost by the errors of their admirals. . . . Nowhere were these solid qualities so clearly shown as in Suffren's battles, because

[37] It was apparent before the action that the *Sphinx* and *Vengeur* were gaining too slowly on the van to be an effective part of the line. The decision to attack was taken because waiting for them might have forced the van to leeward of the anchorage, and would have given the British time to prepare (*Journal de bord*, pp. 273-274).

[38] There is some truth in the conclusion of the *Annual Register* (p. 109), despite its self-satisfied tone: 'The French seem to have built too much upon the advantages of their surprise; and to have acted as if they had been rushing on to a certain prey, rather than to the rough encounter of an enemy who was in all circumstances and situations truly formidable.'

nowhere else were such demands made upon them.'[39] This statement holds true of Porto Praya only with reservations. The British captains, except the commanders of the tiny bombship and fireship, showed no skill in redeeming the almost incredible errors of their commander. Redemption came in part from the enemy, and in part from the solid qualities of the British gunner. These two intangibles saved Johnstone from losing his battle, although they could not save him from losing his campaign.

[39] The *Influence of Sea Power*, p. 449.


References
Ships of the Line
frigates
Fire-ships
Bomb
Armed Transp.
East India Ships
Victuallers &c
F. Ships of the Line
1 Romney.
2 Hero.
3 Monmouth.
4 Jupiter.
5 Isis.
6 Diana.
7 Active.
8 Jason.
9 Hinchinbrooke
10 Fortitude.
11 Valentine.
12 Le Hero.
13 Le Hannibal.
14 Le Artésien.
15 Le Sphynx.
16 Le Vengeur.
Village of Praya
Landing Place
Quail Island
Sketch of the Attack made the 16th of April 1781. by a Squadron of French Ships of the Line Commanded by Monsr. Soufrein. on a Squadron of English ones of War and a convoy. Commanded by Commr. Johnston. in Praya Bay. situate on the south side of the Island of St. Jago. in
Latde 14.53..53. N.
Longde 23..29..22 W.
Scale of one mile
1/4 1/2 3/4 1

Benjamin Slacke's Plan of the Battle of Porto Praya

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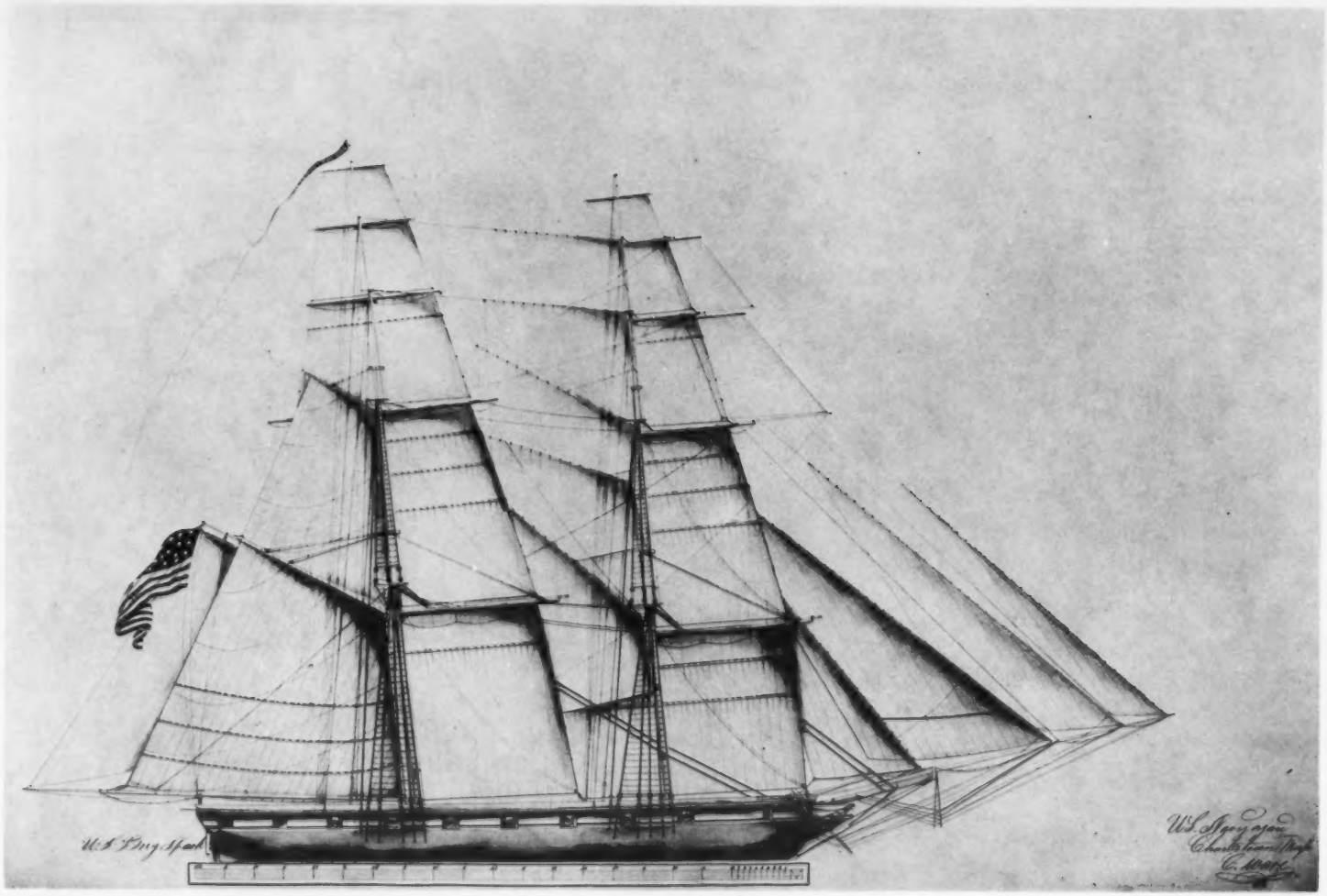
PLATE 5

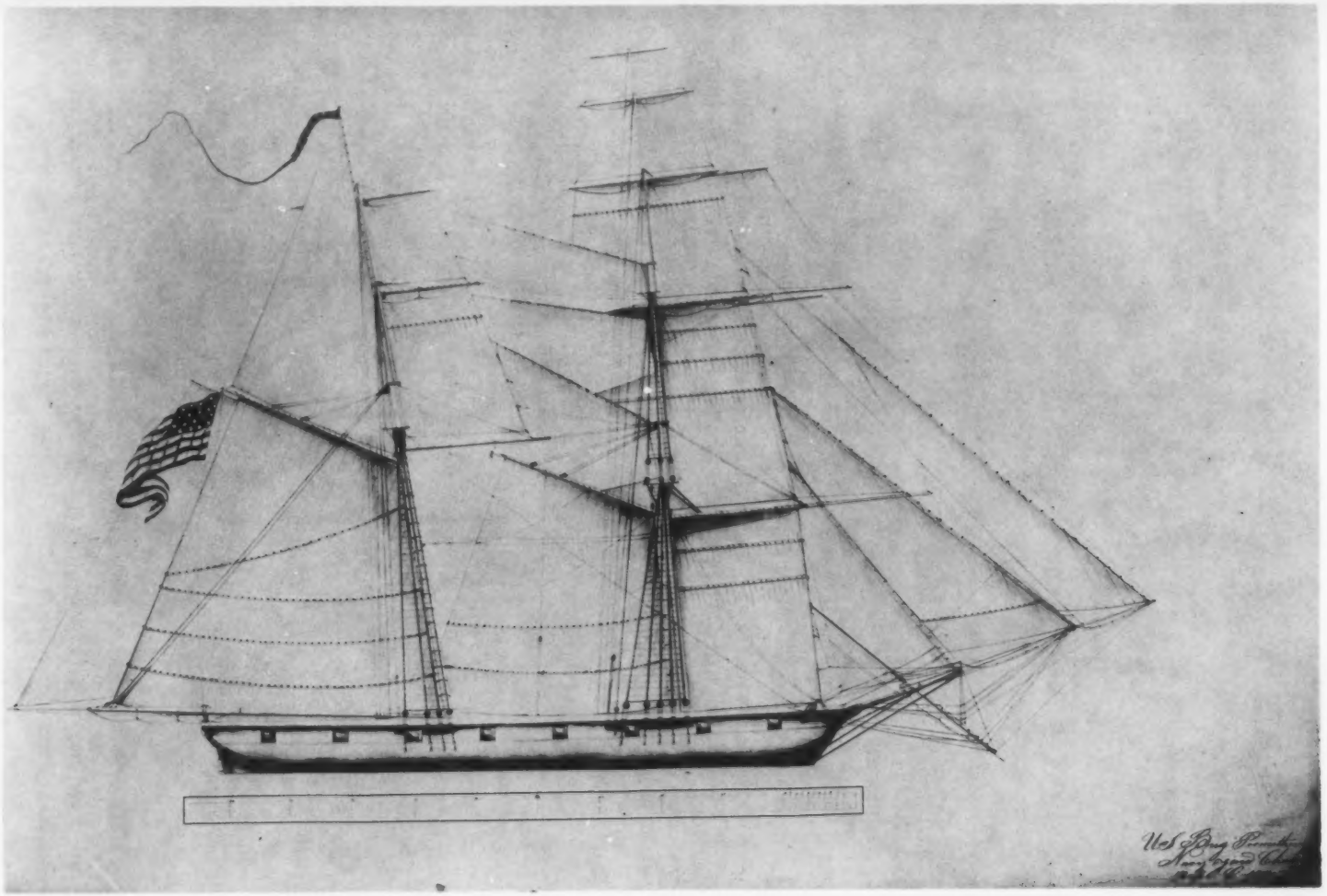


United States Brig *Spark*

Plate 16. Charles Ware Manuscript Album in Office of Naval Records and Library, Navy Department

United States Brig *Spark*

Plate 16. Charles Ware Manuscript Album in Office of Naval Records and Library, Navy Department



United States Brig *Prometheus*

Plate 17. Charles Ware Manuscript Album in Office of Naval Records and Library, Navy Department

One of the wooden steamer hulls of Ferris design, completed as a sailing vessel and rigged at San Francisco as five-masted barkentine in 1920

Five-masted barkentine *City of Galveston*, built at Orange, Texas, 1919

Notes

Charles Ware's Sail Plans of U. S. Brigs *Spark* and *Prometheus*.

Plates 6 and 7 reproduce the sail plans of the U. S. brig *Spark* and U. S. brig *Prometheus* from the album of drawings made by Charles Ware at the Boston Navy Yard, now in the Office of Naval Records and Library, Navy Department, which was described in The American Neptune, III (1943), 267-268.

The *Spark*, a brig of 300 tons, 14 guns, and complement of 90 men, was purchased in Baltimore, Maryland in 1814, and fitted out in New York as one of the vessels of the squadron of Commodore Stephen Decatur for the war with Algiers. Under the command of Lieutenant Thomas Gamble, she sailed from New York 20 May 1815 and arrived at Gibraltar 15 June. With other vessels of the squadron she participated in engagement with and the capture of the Algerine vessels *Mashuda* and *Estidio* on 17 and 19 June, and sailed for the United States with Commodore William Bainbridge's squadron 6 October, arriving at Newport, Rhode Island, 15 November 1815. On 6 September 1816 the *Spark*, under command of Master Commandant Joseph J. Nicholson, again sailed for the Mediterranean carrying a letter from the President of the United States to the Dey of Algiers and orders appointing Commodore Isaac Chauncey and Consul General Shaler commissioners to treat for peace. The *Spark* cruised in the Mediterranean under Lieutenants Joseph J. Nicholson, William A. Weaver, Raymond H. Perry and Commander John H. Elton until 1821. In 1822-1825 she cruised in the Caribbean under Commanders John H. Elton and Jesse Wilkinson and Lieutenants Edward R. Shubrick and John T. Newton, in the squadron commanded first by Commodore James Biddle and later by Commodore David Porter for the suppression of piracy. The *Spark* was sold at New York in 1826.

The U. S. brig *Prometheus*, 290 tons, 12 guns, formerly the hermaphrodite brig *Escape* (sometimes referred to as a schooner), was purchased at Philadelphia in December 1814 by Captain John Rodgers from Messrs Savage and Dugan for twenty thousand dollars. She was fitted out at Philadelphia by Master Commandant J. J. Nicholson and between March and May 1815 made a cruise to the West Indies to carry U. S. Senators Fromentin and Brown to Havana. On 14 August 1816, the *Prometheus*, under command of Master Commandant A. S. Wadsworth, sailed to take Mr. Coles, special messenger from the President of the United States to the Emperor of Russia, to his post, returning to Boston 25 November. In 1817 she was employed in surveying the coast north of Newport, Rhode Island, and in 1818 operated along the southern coast, under the command of Lieutenant William B. Finch, until October, when she was surveyed and condemned as unseaworthy. She was dismantled and sold at auction at New Orleans in 1819.

Notes on the Palmer Schooners

One of the most important of the fleets of large schooners controlled by a single family was the 'Palmer fleet'. Augustus Palmer of Bath, Maine, who for years had owned and operated vessels in foreign trade, in 1894 decided to concentrate his efforts on the coastal trade and to build vessels especially adapted for that work.

The first was the *Sarah E. Palmer* built at Bath in 1894 by N. T. Palmer, son of Augustus. Then followed five others, all bearing the Palmer name, with N. T. Palmer the managing owner. The last one built by him was the *Nathaniel T.*

Palmer, the second five-masted schooner to be built in the United States. After 1900 vessel after vessel bearing the family name was built in quick succession, and when the *Fuller Palmer* was launched in 1908 she was the twenty-first to slide down the ways. The later-built schooners claimed Boston as their home port, with William F. Palmer as the managing owner. Shortly after the launching of the *Fuller Palmer*, ownership of the vessels was vested in a corporation, The Palmer Fleet, with William F. Palmer as the operating head. The last of the Fleet was lost in 1923 and with her the Palmer flag disappeared from the seas.

Of the twenty-one schooners seven were four-masters and fourteen were five-masters; thirteen were built at Bath, six at Waldoboro, one at Rockland, and one at Boston. Their average life was 12⅓ years, the shortest four and the longest twenty-five. In addition to occasional voyages in foreign trade, all of the fleet plied the Atlantic coastal waters, seventeen meeting their ends therein. Of the others, one was torpedoed by a German submarine in French waters, one stranded on the North African coast, one foundered in the Gulf of Mexico, and one was sold foreign to the Greek flag.

The Palmer Schooners

Augustus Palmer, 4 masts, 1287 gross tons, built Bath, Maine, 1894, by N. T. Palmer; reported wrecked 23 March 1900. An early four-masted centerboard schooner.

Baker Palmer, 5 masts, 2792 gross tons, built Waldoboro, Maine, 1901, by George L. Welt; foundered at sea, Lat. 34.21N, Long. 64.47W, on 11 December 1915.

Davis Palmer, 5 masts, 2965 gross tons, built Bath, Maine, 1905 by Percy & Small; sank at her anchors, off Graves Light, entrance to Boston Harbor, 24 December 1909, during a heavy southeaster which later backed into the northwest. Captain Leroy K. McKown and his entire crew were lost.

Dorothy Palmer, 5 masts, 2872 gross tons, built Waldoboro, Maine, 1903, by George L. Welt; stranded Stonehorse Shoal, Massachusetts, 25 March 1923.

Elizabeth Palmer, 5 masts, 3065 gross tons, built Bath, Maine, 1903 by Percy & Small; collided with the American-Hawaiian ss *Washington* and sank 'off Fenwick Island Lightship, Del.', on 26 January 1916.

Fannie Palmer, 5 masts, 2258 gross tons, built Waldoboro, Maine, 1900 by George L. Welt; collided with the ss *Middlesex* and sank at Great Round Shoal, Massachusetts, 11 July 1914. She had been renamed the *George P. Hudson* and was the most unlucky vessel that ever carried the Palmer flag.

Fannie Palmer, 5 masts, 2235 gross tons, built Bath, Maine, 1907, by Percy & Small; foundered at sea 25 December 1916. The second vessel of this name to be built for William F. Palmer.

Frank A. Palmer, 4 masts, 2015 gross tons, built Bath, Maine, 1897, by N. T. Palmer; sank after a collision off Cape Ann, Massachusetts, 17 December 1902. The largest four-master ever built in Bath, Maine, and some say the largest one built in the United States.

Fuller Palmer, 5 masts, 3060 gross tons, built Bath, Maine, 1908, by Percy & Small; foundered off Highland Light, Massachusetts, 12 January 1914.

Harwood Palmer, 5 masts, 2885 gross tons, built Waldoboro, Maine, 1904, by George L. Welt; torpedoed by a German submarine about five miles south of La Blanche Island, France, 23 May 1917.

Jane Palmer, 5 masts, 3138 gross tons, built Boston, Massachusetts, 1904, by John M. Brooks; abandoned at sea. Lat. 36.06N, Long. 65.31W, 18 December 1920. Captain Malvin J. Marston and his entire crew were saved. She was the largest of the *Palmer Fleet* five-masters.

Marie Palmer, 4 masts, 1904 gross tons, built Bath, Maine, 1900, by William Rogers; stranded on Frying Pan

Shoals, Massachusetts, 17 December 1909.

Mary E. Palmer, 4 masts, 1526 gross tons, built Bath, Maine, 1895, by N. T. Palmer; stranded at Casablanca, North Africa, 8 August 1920.

Maude Palmer, 4 masts, 1745 gross tons, built Bath, Maine, 1900, by William Rogers; foundered during a hurricane in the Gulf of Mexico, 26 August 1915.

Nathaniel T. Palmer, 5 masts, 2441 gross tons, built Bath, Maine, 1899, by N. T. Palmer; abandoned at sea, Lat. 32.59N, Long. 62.45W, 1 December 1911. The second five-master to be built in the United States, and rivaling the *John B. Prescott*, which was built the same year, by about two weeks, the *Palmer* received her original document, at Bath, Maine, 30 December, 1898, while the *Prescott* did not receive hers until 15 January 1899.

Paul Palmer, 5 masts, 2193 gross tons, built Waldoboro, Maine, 1902, by George L. Welt; she burned at sea, off Cape Cod, Massachusetts, 15 June 1913. She was the smallest five-master among the Palmer owned vessels and many claim that she was the smallest five-masted schooner ever built in Maine.

Prescott Palmer, 5 masts, 2811 gross tons, built Bath, Maine, 1902, by New England S. B. Co.; abandoned at sea Lat. 34.08N, Long. 66.46W, 20 January 1914.

Rebecca Palmer, 5 masts, 2556 gross tons, built Rockland, Maine, 1901, by Cobb-Butler Co., sold foreign and went under the Grecian flag in 1921.

Sarah E. Palmer, 4 masts, 1226 gross tons, built Bath, Maine, 1894, by N. T. Palmer; sank at her anchors, during a 100 mile gale, about 8 miles from Charleston, South Carolina, 3 October 1898. Only two out of a crew of ten were saved.

Singleton Palmer, 5 masts, 2859 gross tons, built Waldoboro, Maine, 1904, by George L. Welt; sank after a collision with the ss *Apache* off the Delaware Coast 6 November 1921.

William B. Palmer, 4 masts, 1806 gross tons, built Bath, Maine, 1896, by N. T. Palmer; stranded, Davis Shoal, Nantucket, Massachusetts, 29 September 1910.

ROBERT B. APPLEBEE

Five-Masted Barkentines

In 1904 Arthur Sewall & Co. of Bath, Maine, who had just completed building a series of steel four-masted barks and one five-masted schooner, had B. B. Crowninshield draw them up a design for a five-masted steel barkentine of dimensions 332 x 47 x 29 feet, with deadweight capacity of 5400 tons. She was to have carried double topgallants and a royal on the foremast, and a large gaff-headed spanker.[1] Had they built her, this would have been the first of her rig afloat, but conditions did not appear suitable, and the Sewalls gave up shipbuilding entirely and confined their attention to management of their fleet.

The next five-masted barkentine design was not completely executed, either, although meanwhile a six-masted iron barkentine, the *Everett G. Griggs*, later *E. R. Sterling*, had been put in service.[2] The *Flagstaff* (wooden, 2101 tons, 257.9 x 47.3 x 24 feet) was laid down at Oakland, California, in 1916. Her original owners intended her as a barkentine but she changed hands more than once during construction and was completed in 1917 as a five-topmast schooner with a single yard on the foremast.

The first actual five-masted barkentines, then, were the group of wooden auxiliaries built on the Gulf in 1917-1920 for Italian interests for whom Henry Piaggio, Italian vice-consul at New Orleans, was the American representative. The vessels were named for Southern cities, although some of the later ones were rechristened with Italian names starting with '*M*'. Since the Shipping Board declined to permit transfer

[1] Hennessey, *The Sewall Ships of Steel*, pp. 17, 261.

[2] Lyman, 'Six-Masted Rigs.' The American Neptune, IV (1944), 325-326.

to foreign registry they were operated as American vessels until after the War. The first completed seems to have been the *City of Orange* (1632 tons, 226.2 x 43 x 22.5 feet) in 1917, followed by the *City of Houston* in 1917, *City of Gulfport, City of Mobile, City of Beaumont, City of Dallas,* and *City of Austin* in 1918, *City of Galveston* (Plate 8), *City of Orleans, City of Pascagoula, City of Lafayette, City of Waco, City of Jackson, Macerata, City of Vicksburg,* and *Monfalcone* in 1919, and *City of Natchez* in 1920. These were built at Orange, Texas, except the *Dallas,* at Beaumont, Texas, and the *Pascagoula, Jackson, Vicksburg,* and *Natchez,* at Pascagoula, Mississippi. Dimensions of this group ranged upward from the *Orange* to the *Natchez* (2462 tons, 284 x 46.3 x 22.5 feet), but in appearance they were very much alike, with tremendous sheer, full ends, and double topgallants with no royal on the foremast. Fate of the last of them has already been discussed in THE AMERICAN NEPTUNE.[3]

On the West Coast two iron five-masted barkentines were produced during this period. The first was the *Crowley* (1364 tons, 250 x 36 x 20.2 feet), originally the Pacific Mail steamer *City of Panama* built at Chester, Pennsylvania, in 1873 and converted to sail after the success of her larger consort *City of Sydney* as a six-masted barkentine.[4] The *Crowley* later went under Brazilian registry as the *Olga M.* The other was the *Monterey,* built at Southampton in 1878 as the British ship *Cypromene,* converted to a four-masted tank schooner barge at San Francisco in 1904 after being ashore at Salina Cruz, Mexico, and refitted at San Francisco as a seagoing vessel in 1919 (1854 tons, 260 x 39.5 x 24 feet). She was laid up there in 1923 after losing her jibboom in a collision, and was towed to Los Angeles to be scrapped in 1934.

[3] Goddard, 'The Passing of the Five-Masters' IV (1944), 58 *City of Vicksburg* was renamed *Marsala.*

[4] Lyman, op. cit., 326, Plate 52.

The first—and only—five-masted barkentines actually designed as such and built as pure sailing vessels were three completed at Aberdeen, Washington, in 1919 by the Grays Harbor Motorship Company for their own operation in the lumber trade: the *Forest Pride, Forest Dream,* and *Forest Friend* (1600 to 1615 tons, 242 x 44 x 19 feet). They carried double top-gallants and a royal on the foremast, and were heavily and beautifully rigged. The *Dream* was burned at Stromstad, Sweden, in January 1933; the others were laid up in Puget Sound waters where the *Friend* became a barge in 1938 and the *Pride* went to pieces.

A group of unfinished wooden steamer hulls of Ferris design (Plate 8) was completed as sailing vessels and rigged at San Francisco in 1920 as five-masted barkentines: *Alicia Haviside* (ex-*Apama,* built at Samoa, California), *Phyllis Comyn* (ex-*Cremona,* built at Rolph, Calif.), *Anne Comyn* (also built at Rolph), *Russell Haviside* (ex-*Cresoline,* built at Rolph), *Katherine Mackall* (built at Wilmington, California), *Monitor* (launched at Benicia, and completed at Oakland) and *Kate G. Pederson* (built at Columbia City, Oregon). These had gross tonnages of 2247 to 2269 and registered dimensions within a few inches of 266.5 x 46 x 24 feet. The *Phyllis Comyn* was sold to Peruvian owners in 1928 and renamed *Republica Peruana*; she drifted ashore at Callao in December 1935 and her hull was burned a few months later. The others were all abandoned from registry in 1931; *Kate G. Pederson's* hull was used as a breakwater at Alameda Airport; *Monitor* became a floating sardine reduction plant; and the others were scrapped.

Lloyd's Register for 1921 lists two wooden five-masted barkentines building on the Parramatta River near Sydney for the Commonwealth Government Line: *Burnside* and *Braeside* (1800 tons, 250 x 45 x 21 feet). The best available evidence indicates that they were never completed.

JOHN LYMAN

Documents

William Lawrance's 'Dreadfull Adventure,' 1777

Much has been written about the difficulties encountered by Loyalists fleeing to Nova Scotia during the American Revolution. Not so well known is the other side of the picture: the risks met by patriots moving from Nova Scotia to the Colonies. The experiences of William Lawrance, recorded in his plea to the authorities of Massachusetts for assistance in his old age, indicate something of the hazards involved in an effort to remove an entire family from the region which remained faithful to the British Crown.

William Lawrance was a freeholder of Annapolis Royal, on the western shore of the Nova Scotian peninsula, in 1776, with an estate worth $1600. His previous history is unknown, but it is possible that he or his parents were among the many who immigrated from England to take the place of the Acadians dispossessed in 1755. It is apparent that he regarded himself as permanently established there, and his aged mother was bedridden in his household. His reasons for refusing to take the oath of allegiance to King George III remain obscure, although non-compliance would be in keeping with a New England background.

The 'dreadfull adventure' took place in the spring of 1777, after careful and secret preparations. The story of Lawrance's escape and his return to get the family is a nautical one, for it revolves around dangerous voyages in a succession of small boats and schooners which crossed the stormy Bay of Fundy three separate times. The narrative itself is vivid and exciting, including little details which project the reader onto the scene and cause him to tremble for the success of the attempt. Lawrance was not an educated man—that is apparent at a glance—but his methods of expression are clear. His constant use of phonetic spelling is a highly interesting feature of the paper.

Lawrance's plea, dated in Boston in October 1810—thirty-three years after the events—is among the miscellaneous collection of the Maryland Historical Society, Baltimore. It is reproduced here exactly as written, except that paragraphing has been created for the sake of readability.

Boston Octo th 1810—

This may Sartify that I William Lawrance was in anapolis Royal in Nova Scotia in the year 1776 then free holder of an a State worth Sixteen hundred dollars which I forfited to the crown By refusing to take the oath of eligeance to the king then we being called to gather to be drafed to sarve the king refused then they drafed us with out our coming to gether and I was drafed to go in the british Sarves then I sold my property for one thousand dollars and toke about five hundred dollars of the same and a note for the rest this was dun as it was by stilt, then I bought a small Boat thirteen foot keel Capt Sticukd then my Self and the now reverent mr Kindall with a prisanor one mr white being well armed and vitled went on bord the boat the first of may 1777 for our treadful adventure.

The first was to run by a sloop of war in a narrow river which we did in the night although we went so nigh that we saw the Sentanel, then we went to a place caled moos river and hid our boat and lay in the wood and rid out a snow Storm, then went to the gut so caled and the next day being Sunday the first Sunday in may Seventeen hundred and Seventy Seven, then we imbarket for our dreadfull adventure in a small boat only

seven inches clear of the water in the bay of funday tides rise sixty feet and the smallist breez will make a dreadfull Sea and when we ware in the midst of the bay we cold not see land on either side it being forty milds acrost but God saw fit to protect us. we arrived on shore on Partredge Island att nine at night in Sant Johns harbor, and then made the best of our way for Boston for we went to Pasmqady then to machias and there fell in with a sloop for Boston and went on bord and arived in about a fortnight then I went to the Bord of war, and to the Cumity of Safty to gitt a pass to go and gitt my family which was hard to uptain for that was ennemeis Contry but at least I got a pass to go to the Bay of fundy and to Steal my family as you might call it.

I haveing Bought a small Schoner for that pirpos I sot Sail with one Salor Jacob Baker now dead and when we came off machas we aspied a pyrots Long boat Standing for us but wood was her object and not us then we went up the bay about forty mils above the gut to a small cove wich I loked out before I came away from anapolis, the night before we got there it blow so hard we ware obliged to use our Best indevors to save our selves we came to anchor about twelve oclock then I went for my family I came to the river Just at dark and stole about and went down the river with in three quarters of a mild and went to a small house where my mother Lived and my wife and three children for they had taken posesion of my former house and there was a proper Tory in it I told my wife my desire and shee went to our friends, and they agried to help me off

The third day in the night about two oclock I sett of bak to my Schonerr whare i cume about noon I ate some diner and returned back to hear what next I found all thing well, I had to Steel unother boat for i found I could not gitt that then I took another load of my things and Soot out for my Schoneer and the third night I was viry much trobled to find about and going down the river I came to a narrow place I looked forward and i espied there capt of there minet men which i was forst to pass which I did by hunching up my Shoulders and hiding my face under my hat although if I had bin discovered my desine was to Struck with my fist and flung him in to the crick but I got Saff hom and found about sixteen hands ready to help me off.

We loaded up all we could cary for you must know I had a lame mother which had not gon a Steep for two year and they wold not help me off if I left her, and it was abought twelve milds to my vessel and all wood, after we crosed the river a mild and a half and the mountain so steep that we ware obliged to pool up By the bushes I brought one child in my arms and another upon my back, and my mother Swong in a two armed Chare we got off with out being discovered and got to the Schonar about Sun Set very much forteged for I had bin all most with out Sleep for four nights and to my sorow my Schonar had swong in toward the Shoer and struck a Stone and lost her ruter and I was forst to stand by the Sale that night for we Steerd with an ore and the Sale, the next day we got to pasmaqady and got a ruder and in about four week we got back to Boston where my family have staid ever since.

I said Staid for many times we did not hardly Live, my Loosing my estate caused me to goe to See and I was unlucky and lost what I got and was a prisuner in the westindes and by that time I had bin three years of the best of my Life to in crees my property was reduced to nothing and my family in creesing we have eleven children nine of which I trust are Living, and now I am old and all most past labor, and if you think my case desarvs your pity I shall be thankfoul and in duty ever Bunt to pray—

your
humbel
Servent
William Lawrance

Contributed by William D. Hoyt, Jr.

HALL BROTHERS' SHIPYARD IN 1881

[From Henry Hall note-book in Penobscot Marine Museum Searsport, Maine.]

PORT LUDLOW, W. T. Nov. 26, '81. This town consists of a store; a saw-mill which has been 4 years in building and has not been started yet; a hotel, the Phoenix, of which I am the only guest, and which only lodges its guests; a cook house, run by Chinamen, at which meals are obtained; a few cabins for the workmen in the ship yard; two or three houses; and the ship yard. A lonely place. The Hall Bros. have built many vessels here, but they have now gone to Blakeley, near Seattle.

Mr. Farmer who is foreman of the saw mill, for the Port Gamble company its owners, says that ship timber could be supplied for $10 a year or so ago, for all frame and planking lumber, & spars, and for $20 for finishing lumber; $12 and $22 now. The logs cost $0.50 per thousand feet standing on the stump. Felling, hauling, and towing cost enough to make the logs cost, delivered at the mill, $6 per thousand. Towing is about $1.50. . . .

. . . Speaking of prices, Mr. Farmer spoke of a barkentine, built by the Halls, 4 years or so ago, 160′ x 38′ x 14′ hold, which cost only $34,500.[1] Now the same vessel would cost $38,000. Wages were low then however, $2½ and $3. Now they are $3, and the men found, which amounts to about $4 in all. He told of several instances, where visitors from the East, Mr. Villard for one, were taken by surprise at low cost of vessels, and were incredulous as to the facts related to them. [pp. 482-484]

Seabeck, W. T. Nov. 29, '81. . . . The 3m. schooner *Wm L Beebe,* built by the Halls, 6 years ago, is also here. She carries one yard on the foremast. She cost $26,000, and is rated as worth $24,000 now. She is about 130 x 33 x 10′ hold. Draws 8 feet. About 250 tons register. She carries a 92 foot mainmast. Sailors get from $30 to $40 a month, and their board. [pp. 493-494]

Mem. The saw mill at Port Ludlow is new, and not yet in operation. The old one was torn down. This one is now owned by the Port Gamble Co. and the combined saw mill men pay $900 a month to keep this mill idle. It is said the first saw mill on the Sound was the old one here. [p. 491]

Port Gamble, W. T. Nov. 30, '81. . . . He[2] supplied the Hall Bros, when they were at Ludlow, with long and short at a uniform price of $10. The long was put in merely to season the pudding. [p. 495]

The *Wrestler,* 3m barkentine built by the Halls, 2 or 3 years ago, cost $32,000. The Halls made no money on this vessel, and could not have built another for the same money. [p. 496]

Port Blakeley, W. T. Dec. 2 '81. The builders here are the Hall Bros, formerly of Port Ludlow. The yard is near the sawmill, and these two institutions are the only industries of the place. The brothers were Isaac, Henry K., and William G. Hall. Isaac is now dead. The Halls began ship building in 1848, at Cohasset, Mass. They built the ship *Greenwich,* and the barks *Europa*[3] and *Jeshuron* there, and some other vessels perhaps. They were preparing to do other work for Fairbanks of Boston, who had been their customer, when Fairbanks died, and that broke them up. The clipper ship era began, and they went back to Boston, doing Navy Yard and other general work as far as I can learn. They never built in Boston. In 1873, Isaac Hall came to Puget Sound, attracted by the reports of the country. He settled at Port Ludlow. The others

[1] Probably *Catherine Sudden.*

[2] Cyrus Walker of Pope & Talbot.

[3] The *Europa* was 119 x 27 x 18 ft., 437 tons, built at Cohasset in 1849. She was later well known as a whaler out of Edgartown. I have no data on the other two. The Halls worked at San Francisco in the 1860's as shipwrights before moving to Puget Sound; also *William* G. Hall should be *Winslow.*

came out the following year. They have built the following vessels:

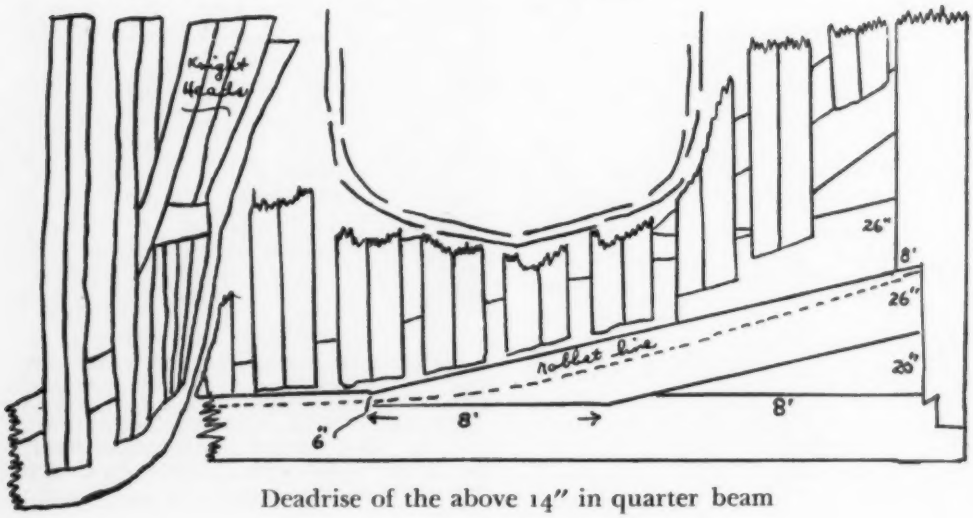
18				
'74	2m. sch.	*Annie Gee*	154.93	tons
	" "	*Ellen J. McKinnon*	69.84	"
	" "	*Twilight*	184.52	"
	" "	*Jessie Nickerson*	184.52	"
	Barkentine	*Pio Benito*	277	"
'75	2m. sch.	*Annie Lyle*	195.30	"
	" "	*Cassie Hayward*	197.92	"
	" "	*Ida Schnauer*	215.32	"
	3m. sch.	*Emma Utter*	279.39	"
	" "	*Wm. L. Beebe*	296.24	"
	2m. sch.	*La Gironde*		
	" "	*American Girl*	225.23	"
'76	3m. sch.	*Courser*	357.99	"
	" "	*Premier*	307.69	"
	" "	*Reporter*	227.40	"
	Bkne.	*Quickstep*	423.37	"
1877	3m. sch.	*Hueneme*	354.72	"
	" "	*Wailele*	48.47	"
	" "	*M. E. Foster*	130	"
1878	2m. sch.	*Waiehu*	40	"
	" "	*Liholiho*	75	"
	Bkne.	*Catherine Sudden*	405.86	"
1879	Steamer	*Jas. McKee*	177	"
	2m. sch.	*Luku*	100	"
	" "	*Malolo*	130	"
'80	Steamer	*R. C. Bishop*	298.21	"
	2m. sch.	*Kaikioulaie*	190	"
	" "	*Jennie Walker*	140	"
	Pilot sch.	*Lady Mine*	59	"
	Bkne.	*Wrestler*	473	"
	Yacht sch.	*Aggie*	52.31	"

The *Wailele, M. E. Foster, Waiehu, Liholiho, Jas. McKee, Luku, Malolo, R. C. Bishop, Kaikioulaie, and Jennie Walker* (2 steamers and 8 schooners) were for the Sandwich Islands. The 2 steamers were sent from the Sound as schooners *Iris* and *Kelpie*, to S. F. with lumber, and there got their machinery. The *Malolo* and *Jennie Walker* cost $10,000 each: the steamers $30,000 each.

The Halls now pay as follows for lumber: $16 a thousand, for keel and keelson pieces over 90 feet in length; under 90 ft., $11. Bed logs for center board schooners, $16. Rough clear lumber, for stanchions, etc. $16. Deck plank, $22½. Planking, clear of heart and large knots, $12. All other lumber $11, this being for frames, beams, ceilings, etc. (They have a 90′ batten at this yard) Handsome mold loft floor.

The barkentine, now in frame,[4] is 180′ x 162½′ keel x 38′ x 15′ hold. Shoe 6″ x 15″. Keel 26″ x 15″, in two pieces, one of them 126′ long. Scarph, 15′ long. Frames 22″ x 16″, spaced 31″. 64 frames, including one wh. heels on after part and side of stern post, and one forward cut in two for a lumber port. Five cants forward heel on deadwood; and 8 aft. Filling pieces, about 6′ long, between the frames, to receive chain plate bolts. Keelson 16″ x 40″. Sister keelsons 14″ x 14″. Beams 13″ x 15″, spaced 3′. Decking 4″. Decking for tops of houses 3″. Stanch-

[4] *Makah.*



Deadrise of the above 14″ in quarter beam

ions 8″ x 15″, with straps over beams, and 6″ stuff at foot to secure the heels on the keelson. St. post 26″ x 28″. Rudder post projects below the planking, an idea of the Hall Bros. Breast hook over the ports forward, an idea of the Halls, now required in all vessels here. Stem in two pieces, fir, the lower one being a root piece, having a 5 foot scarf on the keel. Gripe piece, laurel. Stern timbers heel on a transom, on after side of rudder post. 2½ frames on rudder post and stern post.

The Halls make no models. They draft their vessels, and lay them off from the draft. They build on the cylindroid principle, and say their models are a conundrum to builders. No other on this coast builds on that principle. They work from the light draft water line, which is based on the cylindroid principle. Their vessels are very fast. They now have more contracts than they want. A keel has just been laid for a new barkentine.[5] [pp. 497-499]

Mem. 3m. schooner *Hueneme*, built by the Hall Bros at Port Ludlow, in 1877. Billet head. Elliptical stern (in the Western sense). Custom House measurements, 142.3 x 34.2 x 10.7 Tonnage mts, 144.6 x 11.2 10 div. of length.

Depths			*2*	*3*	*4*
z = 13.6	10.4		17.9	26.8	29.3
12.9	10.4		16.9	27	30.1
12	10.1		12.8	25.2	29.1
11.2	9		8.6	19.8	23.5
10.7			1.4	5.5	5.5

5	*6*	*7*	*8*	*9*	*10*
28.7	30.5	30.2	29.1	27.3	23.6
31.6	31.5	31.1	30	28.2	24
31.1	31.3	30.6	29	26	15.8
27.4	27.8	27.6	25.2	13.8	6
5.5	5.5	5.5	5.5	3	1.4

[5] *John Smith.*

Tonnage 315.17 + 39.55 cabin and trunk = 354.72

Cabin	*Trunk each side*	*Abaft*
19.8	19.8	13
18.3	4.8	25
7	2.5	2.9

[p. 218]

Seattle, W. T. Dec. 2 '81. . . . They all say here, that there is very little salting of vessels, along the Coast and Sound. The Halls always salt. [p. 219]

Contributed (with footnotes) by John Lyman.

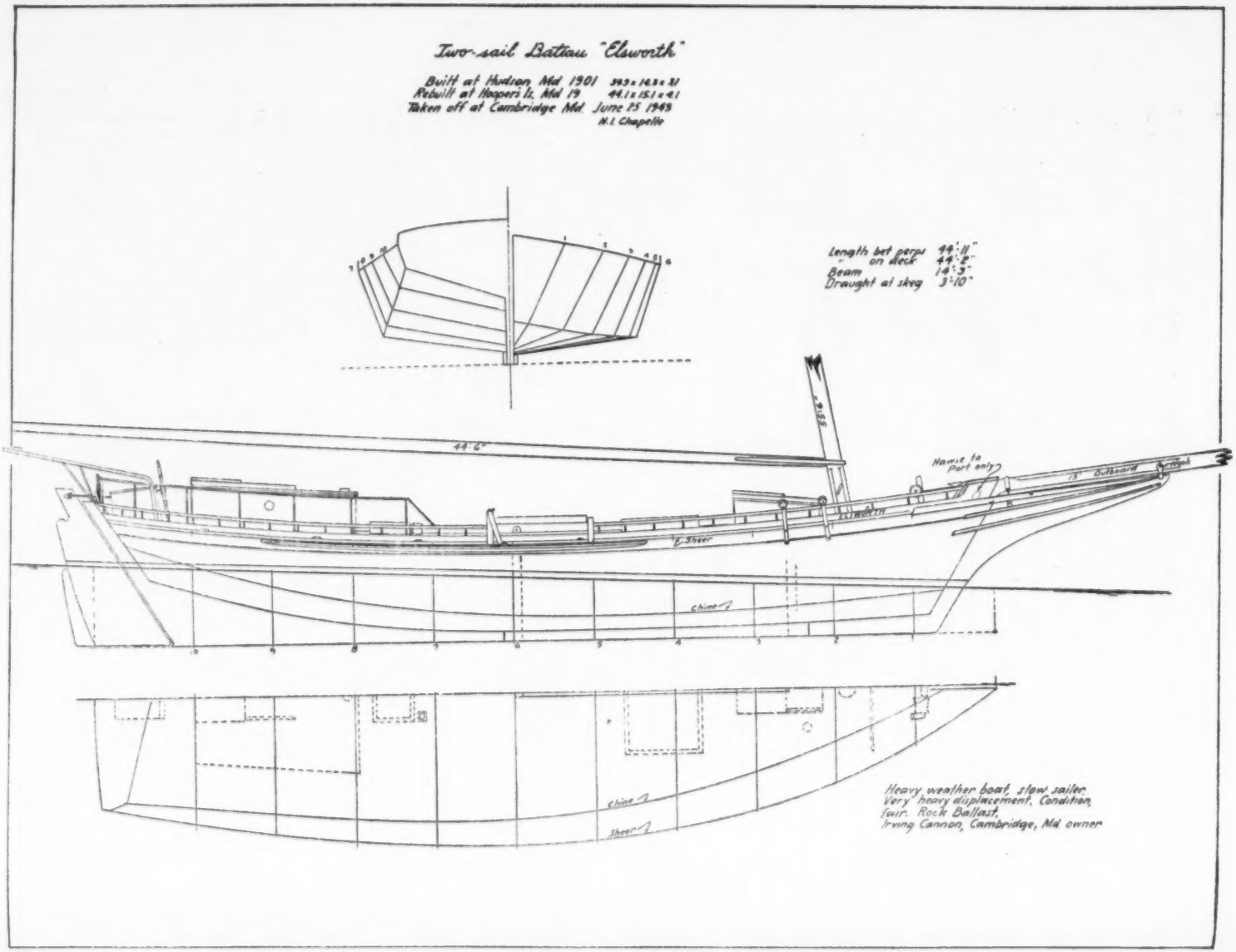
'ARTETU THWART'

[In THE AMERICAN NEPTUNE, III (1943), 350-352, IV (1944), 74-76 were printed copies of some of James Temple Brown's original notes and data gathered for the preparation of part XV of the volume *The Fisheries and Fishery Industries of the United States* published in 1887 by the U. S. Commission of Fish and Fisheries. Copies of more of these notes are recorded herewith.]

QUESTION by James Temple Brown: 'I found that in Provincetown the old men, (whalers, boat-builders, etc.) still call the tub-oar-thwart the 'Artetu' thwart. In fact this thwart was called artetu for a long time until its present name was adopted from the Nantucket whalers. Did you ever hear the term mentioned in your place and do you know anything as its origin.'

Answer of James Beetle: 'When the whalers used the 5 handed boat with 4 thwarts the 4 was the after thwart when the 6 handed boat was used, 5 thwarts were used adding one more after thwart which made two after thwarts. The pronunciation of after was arter when I was young by old people as housen for house, cheer for chair, tawt for thwart. They may have originated the artetu word by saying art 2 tawt meaning they had two after thwarts'.

Contributed by Carl W. Mitman


Two-sail Bateau "Elsworth"
Built at Hudson, Md 1901 39.9 x 14.3 x 3.1
Rebuilt at Hoopers Is. Md 19 44.1 x 15.1 x 4.1
Taken off at Cambridge Md. June 25 1948
H.I. Chapelle
Length bet perps 44'-11"
" on deck 44'-2"
Beam 14'-3"
Draught at skeg 3'-10"
44'-6"
Heavy weather boat, slow sailer.
Very heavy displacement. Condition
fair. Rock Ballast.
Irving Cannon, Cambridge, Md owner

Two-sail bateau *Elsworth*. Drawing by Howard Chapelle. Scale: 1/6" = 1'.

Queries

57. STEAMBOAT ENGINES. Lieutenant-Commander G. W. Dyson's answer to Query Number 39 (IV, 77) clarified certain points admirably. However, certain writers on early American steamboat engines refer to a steeple type engine with 'vibrating crosshead'. Can anyone give a description of the construction and operation of the 'vibrating crosshead'? JOHN W. MCCANN

58. SQUAELING. In *Man* [Royal Anthropological Institute] for May-June 1941, Mr. G. B. Gardner has an illustrated note on a pestle-shaped wooden missile, sometimes loaded with lead, used in the New Forest, Hampshire, until about fifty years ago to kill rabbits, squirrels, and other people's hens. This missile was called a 'squoyle,' and Mr. Gardner adds that a loaded stick called a 'squller' was used until 1890 to throw a life-line to a ship in distress.

In his *Maritime History of Massachusetts*, S. E. Morison writes: ' "Squaeling," in Marblehead dialect, meant hurling a stone, or other hard object.' This word seems now to be obsolete, like the slogan 'rock 'em!' which was formerly used when 'furriners' appeared.

Since Hampshire lies directly across the Channel from Normandy, and since many of the early settlers of Marblehead came from the Channel Islands, it seems as though 'squoyle' and 'squaeling' might have a common origin in some Norman-French word, presumably beginning with *escu-*. Has any reader a suggestion? HAROLD BOWDITCH

59. EARLY VISITS TO AUSTRALIA. In recent correspondence with the Mitchell Library at Sydney, my attention has been called to the numerous references to American ships calling at Port Jackson, New South Wales, in the last decade of the eighteenth century, that are to be found in David Collins, *An Account of the English Colony in New South Wales* . . . (London, 1798-1802, 2 volumes).

According to Colonel Collins (I, 242-243), the brigantine *Philadelphia*, Thomas Patrickson, master, arrived at Port Jackson on 1 November 1792, with a cargo of provisions brought out on speculation, as the result of a chance meeting between Patrickson and Lieutenant-Governor King of the new colony at the Cape of Good Hope in July of the previous year.

In December 1792 the Rhode Island ship *Hope*, Benjamin Page, master, touched to procure wood and water, en route to Canton (I, 254-255), but incidentally sold beef, pork, flour and spirits, to the tune of £2957. On 29 October 1793 the snow *Fairy* of Boston, Rogers, master, came into Port Jackson to refresh, also en route to Canton (I, 319).

The *Hope's* trading apparently inspired Rhode Island interest in New South Wales, as Captain Page returned to Port Jackson on 14 June 1794 (I, 374-375) in the ship *Halcyon*, with provisions and spirits on speculation. The supercargo, William Magee (who in later years ran a select shipmasters' boarding house in the foreign factories at Canton) had an unpleasant encounter with footpads, who grabbed at his watch but only succeeded in making off with the gold seals attached to its fob. On 5 July 1794 the Brown and Francis ship *Hope* (previously commanded by Page) arrived from Providence. Of this incident Colonel Collins writes: 'Brown was Page's uncle, between whom there being some misunderstanding, Page built and freighted the *Halcyon* after the departure of the *Hope*, whose master being ordered to touch at the Falkland Islands, Page determined to precede him in his arrival at this country, and have the first of the

Two-sail bateau *Elsworth*. Drawing by Howard Chapelle. Scale: 1/2" = 1'

market, in which he succeeded. This proved a great disappointment to the master of the *Hope*, who indeed sold his spirits at three shillings and sixpence per gallon; but his salted provisions no one would purchase.'

The next American visitors were two vessels bound for the Northwest Coast: the brig *Mercury*, William Barnett, master, which arrived on 17 October 1794 from the Falkland Islands (I, 393) and the ship *Otter*, Ebenezer Dorr, master, which arrived from Boston on 24 January 1796 (I, 452).

The *Abigail*, Christopher Thornton, master, called a few days after the *Otter*, looking for the snow *Susan*, Trotter, master, which finally arrived on 19 April 1796, 221 days from Rhode Island, with a cargo of spirits, broadcloth, etc. (I, 457-458, 472). On 23 August 1796 the ship *Grand Turk* arrived, five months from Boston, with a cargo for Port Jackson, Manila and Canton in the hands of William Magee, supercargo (I, 493).

On 11 January 1797 the brig *Mercury*, en route from Manila to the Northwest Coast, put in to refit (II, 19), and on 2 June of the same year Captain Thomas Patrickson, who had been master of the *Philadelphia* in 1792, arrived from Ireland in command of the ship *Ganges* bringing convicts (II, 38-39).

'On the 20th [October 1798] an American ship, the *Ann and Hope*, anchored in Botany Bay, unfavorable winds having prevented her getting up so far as Port Jackson. As the master only wanted a little wood and water, three days were sufficient to procure them; and at the end of that period he sailed for China. He certainly was either pressed for time, or had nothing on board that he could part with, as the ships of his country had always found it worth their while to refresh at Port Jackson.' (II, 133)

Other American vessels noted by Colonel Collins are: schooner *Argo* July 1798 (II, 119); Rhode Island ship *Semiramis*, 1 October 1798, bound for China (II, 129); whaler *Rebecca*, 5 March 1799, from Cape of Good Hope (II, 201); ship *Resource*, 6 September 1799, from Rhode Island for China, with William Magee aboard (II, 264); and in 1800 the Rhode Island *Belle Sauvage* (II, 296) and ship *John Jay* (II, 303).

These voyages have recently been considered from (Australian and British sources) by Dr. Gordon Greenwood of the University of Sydney in his *Early American-Australian Relations from the arrival of the Spaniards in America to the close of 1830* (Melbourne: Melbourne University Press, 1944), but there are undoubtedly journals and letters in American private and public collections that would throw additional light upon them. Information concerning unpublished sources, whether in the shape of references or of documents or notes for publication in the NEPTUNE would be greatly appreciated.

W. M. WHITEHILL

News

Naval Historical Foundation

Washington, D. C. At the annual meeting of the Foundation, held at the Army and Navy Club on 24 November 1944, the Honorable Charles Francis Adams, Admiral Montgomery M. Taylor, Vice Admiral Alfred W. Johnson, and Charles Warren, Esquire, were elected trustees. Captain D. W. Knox, Secretary, reported on the status of the Naval Museum: with the approval of the President of the United States, the Navy's Bureau of Yards and Docks is preparing designs for the building and the Office of Naval Records and Library is making plans for the exhibits and the permanent staff. While the nation is at war it is not likely any further steps will be taken, but at the close of hostilities it is hoped the Museum will become a reality very quickly. One of the features of the Museum will be a wet basin in which will be moored at least one actual vessel representative of each war in which the United States Navy has participated.

Peabody Museum Marine Associates

Salem, Massachusetts. At the 23 October 1944 meeting, K. Aage Nielsen, naval architect, of Boston and Marblehead, spoke on Wooden Shipbuilding, Past and Present.

Steamship Historical Society

New York City. The annual meeting of the Steamship Historical Society of America was held at the American Merchant Marine Institute, 30 September 1944. Mr. Leland D. Wood, of Norwich, Connecticut, was elected president; Mr. William H. Ewen, of Dobb's Ferry, New York, was appointed secretary. Mr. Frank O. Braynard spoke on the work of the Institute.

The New York Chapter of the society met at the Maritime Association of the Port of New York, 9 December 1944. Mr. Thomas Morris, publisher of the New York *Maritime Register* was the speaker.

Notes on Contributors to The American Neptune

Joel W. Hedgpeth of Walnut Creek, California, is a naturalist and writer on marine subjects.

Waldo L. Schmitt, who contributed the chronological appendix concerning the *Albatross* to Mr. Hedgpeth's article, is Head Curator of Biology, United States National Museum, Washington, D. C. Dr. Schmitt served as scientific assistant and naturalist during several cruises of the *Albatross* more than thirty years ago.

H. A. Musham, a Chicago naval architect, contributes the second of a series on early Great Lakes steamboats. His first article appeared in the October 1943 issue.

James Duncan Phillips, author of *Salem in the Seventeenth Century* and *Salem in the Eighteenth Century*, is actively preparing a final nineteenth-century volume, and consequently re-examining many of the sources concerning Salem's foreign commerce.

William B. Willcox, assistant professor of history at the University of Michigan, again contributes new naval documents from the rich sources of the William L. Clements Library.

William D. Hoyt, Jr. is Assistant Director of the Maryland Historical Society, Baltimore.

Book Reviews

JAMES THOMAS FLEXNER, *Steamboats Come True, American Inventors in Action* (New York: The Viking Press, 1944). 5½" x 8¼", cloth, 406 pages, 20 illustrations. Bibliography, Notes, Index. $3.50.

The reader who wishes to view American inventors in action is well served by this book. Should he desire to see steamboats come true, he will find the book serves him less well.

Mr. Flexner has sketched the lives of the men most responsible for the development of the steamboat, namely: Jouffroy, Rumsey, Livingston, Stevens, Nicholas J. Roosevelt, Fitch, and Fulton. Their biographies make interesting reading and in the telling the author has skilfully woven them into a pattern centering on the pioneer steamboat. The vigorous competition and unhampered enterprise of those days should strike a nostalgic note for the modern entrepreneur. These rugged individuals offer some interesting contrasts, as, for example, the untutored but persistent Fitch and the suave and calculating Fulton. The unsung Fitch built a boat in 1790 which covered several thousand miles on schedule and went twice as fast as the celebrated Fulton product of 1807. Fitch worked along stumblingly starting from scratch while Fulton, more alert to his own interests, used the brain-products of other men as he climbed to fame.

Biographical treatment of a subject such as the development of the steamboat tends to result in over-simplification. This, however, does not apply to the author's clear and painstaking descriptions of the workings of these early engines themselves. It is no easy task to portray complicated moving parts with mere words and to make the result readable. Mr. Flexner does this very acceptably and it was probably one of the least fascinating parts of his labors. Our reference to over-simplification had to do with the fact that the application of steam power to navigation was one of the major developments of the Industrial Revolution. It was part of a complex which cannot be adequately explained in terms of biography. These individuals were caught up in powerful currents which were not of their making. Geography, economics, and politics were involved. The book suggests this when it touches upon such things as settlement patterns in the New World, the development and spread of mechanical skills, the accumulation and venture of capital, international rivalries, etc. We are not lamenting that more of this was not squeezed between these two covers but merely pointing out the limitations of biography.

The final chapter contains an interesting discussion of the meaning of the word 'inventions' and attempts to answer the question, 'who invented the steamboat?' After emphasizing that all inventions are the work of many people Mr. Flexner defines 'inventor' as the man 'who was slightly in advance of the procession at the crucial moment when his civilization was already on the verge of the discovery he was about to make.' On that basis he presents the palm to Fulton.

The lives of these inventors are well worth telling. These accounts are supported by painstaking though not exhaustive research. The author frequently lights up avenues which beckon the curious to a further search. We learn many things of interest about American inventors that school histories fail to mention. Few of us, for example, realize that Fulton began and ended his career as a painter of miniatures, that he cared more about submarines than steamboats, and that *Clermont* was not the original name of the boat that crawled triumphantly up the Hudson.

FAIRFIELD OSBORN, ed., *The Pacific World, Its vast distances, its lands and the life upon them, and its people* (New York: W. W. Norton, 1944). 5⅝" x 8⅝", cloth. 218 pages, 18 maps and diagrams. $3.00.

Here in a few orderly pages is condensed and summarized a vast store of accurate information concerning the Pacific, its islands and their discovery, its winds, tides, currents, peoples, animals and plants. *The Pacific World* is a coöperative venture, inspired by the American Committee for International Wild Life Protection, prepared by twenty-eight contributors from nine first-rate scientific institutions, and published commercially for the benefit of all who wish to inform themselves about this formerly remote area which has recently become so much a part of our daily lives. While it necessarily touches only the high lights of any subject, the breadth of coverage makes it a book of extraordinary value and interest both to the soldiers and sailors in the Pacific (for whom it was partially designed) and to the stay-at-home voyagers of books and charts. It is, moreover, encouraging to see scholars and publishers working together so harmoniously to produce a book that is both accurate in content and suitable for popular consumption.

BERNARD BRODIE, *A Guide to Naval Strategy* (Princeton: Princeton University Press, 1944). 5⅛" x 7⅞", cloth. xii+314 pages, 16 illustrations. $2.75.

A Layman's Guide to Naval Strategy, published in 1942 (and reviewed in NEPTUNE, III, 92), is now, in its fifty-sixth thousand, issued in a third and completely revised edition. In the original edition Mr. Brodie showed extraordinary skill in translating involved technical matter into clear and intelligible terms, and in relating theories to current fact, and as the war has progressed there has been little need for him to alter any of his basic ideas. But two years have 'provided not only a wealth of new illustrative material but also a new perspective,' and so, rather than let a good thing alone, he has improved it. Consequently this third edition, in which he has cited illustrations as recent as the invasions of Normandy and Saipan, is substantially a new book that should be read even by those already familiar with the earlier versions. In retaining all the good points of the first edition and yet keeping up to the minute, Mr. Brodie has again demonstrated his rare ability to combine the reflective processes of the scholar with the journalist's knack of getting to the center of a situation quickly and to express the result in an unusually lucid prose style.

Old Family Portraits of Kennebunk (Kennebunk, Maine: The Brick Store Museum, 1944). 5½" x 8½", paper. 28 pages, 16 illustrations. Publication No. 3 of The Brick Store Museum. 50 cents.

The present publication is a companion to *Old Ship Portraits of Kennebunk,* issued in 1943 and reviewed in THE AMERICAN NEPTUNE, III (1943), 355, 356. It contains few great works of art, but some extraordinarily typical portraits of nineteenth-century New Englanders by John Brewster, Gilbert Stuart and Thomas Badger as well as various unidentified itinerant limners. As one would expect, the subjects include a high percentage of ship builders, shipmasters, merchants and owners. Like its predecessor, it is an admirably conceived and executed publication for a local museum to issue, and it is to be hoped that many like it will follow.